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(54) **1-(2H)-ISOQUINOLONE DERIVATIVE**

1-(2H)-ISOCHINOLONDERIVAT

DÉRIVÉ DE 1-(2H)-ISOQUINOLONE

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Description

[0001] The present invention relates to a novel 1-(2H)-isoquinolone derivative and a pharmaceutical comprising the same as an active ingredient. The present invention particularly relates to an antitumor agent useful as a therapeutic agent for diseases such as solid cancer.

[0002] Regarding a method for synthesizing a 1-(2H)-isoquinolone derivative having a substituent at position 3, several reports have already been made. For example, in 1968, Rose et al. have reported a method of allowing ammonia to act on a 3-aryl isocoumarin derivative, so as to synthesize a 1-(2H)-isoquinolone derivative (see to Non-Patent Document 1). In addition, in 1982, Poindexter has reported a method of synthesizing a 1-(2H)-isoquinolone derivative by the reaction of N,2-dimethylbenzamide with a nitrile derivative (see to Non-Patent Document 2).

[0003] Moreover, the pharmacological activity of such an isoquinolone derivative has also been reported. Researchers of Octamer have reported an isoquinolone derivative having anti-inflammatory action (see to Patent Document 1). Also, researchers of Guilford have reported that 3-phenyl-1-(2H)-isoquinolone has an inhibitory activity on poly(ADP-ribose) polymerase, and that it can be used as a radiosensitizer (see to Patent Document 3). Moreover, with regard to an isoquinolone derivative having anticancer action, in 1989, researchers of Du Pont have reported that a 3-(1-naphthyl)-1-(2H)-isoquinolone derivative exhibits anticancer action (see to Patent Document 2). Furthermore, a patent application, which is pending simultaneously with the present application, discloses a 1-(2H)-isoquinolone derivative exhibiting anticancer action (published after the priority date of the present application; see to Patent Documents 4 and 5). Thereafter, Won-Jea Cho et al. have reported a 3-aryl isoquinolone derivative having anticancer action (see to Non-Patent Documents 3 to 8). However, among such isoquinolone derivatives, no compounds have been commercialized as anticancer agent to date. Thus, it has been desired that a compound having higher anticancer activity and also having preferred physical properties be developed.

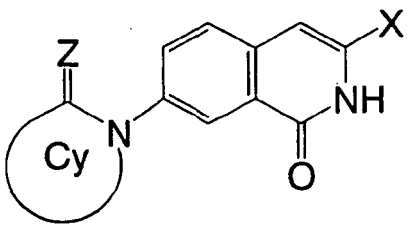
[Patent Document 1] International Publication WO98/51307
[Patent Document 2] U.S. Patent No. 4942163
[Patent Document 3] International Publication WO99/11624
[Patent Document 4] International Publication W02005/075431
[Patent Document 5] International Publication WO2005/075432
[Non-Patent Document 1] J. Chem. Soc. (C), pp. 2205-2208 (1968)
[Non-Patent Document 2] J. Org. Chem., vol. 47, pp. 3787-3788 (1982)
[Non-Patent Document 3] Arch. Pharm. Res., vol. 20, pp. 264-268 (1997)
[Non-Patent Document 4] Bioorg. Med. Chem. Lett., vol. 8, pp. 41-46 (1998)
[Non-Patent Document 5] Arch. Pharm. Res., vol. 24, pp. 276-280 (2001)
[Non-Patent Document 6] Bioorg. Med. Chem., vol. 10, pp. 2953-2961 (2002)
[Non-Patent Document 7] Tetrahedron Lett., vol. 45, pp. 2763-2766 (2004)
[Non-Patent Document 8] J. Org. Chem., vol. 69, pp. 2768-2772 (2004)

[0004] It is an object of the present invention to provide a compound, which has high antitumor activity and is useful as a therapeutic and preventive agent effective for proliferative diseases such as cancer, a production method thereof, an intermediate compound useful for such production, and a pharmaceutical composition comprising such a compound.

[0005] The present inventors have conducted intensive studies directed towards providing a novel therapeutic and preventive agent, which is effective for proliferative diseases such as cancer. As a result, the inventors have found that the compound of the present invention has excellent antitumor activity and is excellent in terms of solubility in water, and that it has preferred properties as a pharmaceutical in terms of safety or the like, thereby completing the present invention.

[0006] That is to say, in one aspect, the present invention provides a compound represented by the following formula (1) :

[Formula 1]



(1)

[0007] wherein X represents an aryl group or heteroaryl group, wherein the aryl group or heteroaryl group may be substituted with one or more substituents selected from Group A ;

wherein Group A consists of a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, an aryl group, a heteroaryl group, $-OR^{11}$, and $-NR^{12}R^{13}$), a C_{2-7} alkenyl group (wherein the C_{2-7} alkenyl group may be substituted with one or more substituents selected from a halogen atom, a C_{1-8} alkyl group, an aryl C_{1-6} alkyl group, an aryl group, and a heteroaryl group), a C_{2-7} alkynyl group (wherein the C_{2-7} alkynyl group may be substituted with one or more substituents selected from a halogen atom, a C_{1-8} alkyl group, an aryl C_{1-6} alkyl group, an aryl group, and a heteroaryl group), a halogen atom, a hydroxyl group, an aryl group, a heteroaryl group, a cyano group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C_{1-8} alkyl group, which may be substituted with $-OR^{11}$ or $-NR^{12}R^{13}$, an aryl group, an aryl C_{1-6} alkyl group, and a heteroaryl group), $-S(O)_{n1}R^{14}$ (wherein n1 represents an integer from 0 to 2), a C_{1-6} alkoxy group (wherein the alkoxy group may be substituted with one or more groups selected from an aryl group, a heteroaryl group, $-OR^{11}$, $-NR^{12}R^{13}$, and a halogen atom), a 4- to 7-membered heterocyclyl group (wherein the heterocyclyl group may be substituted with one or more substituents selected from a C_{1-8} alkyl group, an aryl group, an aryl C_{1-6} alkyl group, and a heteroaryl group), an aryloxy group, a heteroaryloxy group, and a C_{1-6} alkylenedioxy group;

wherein each of R^{11}, R^{12}, R^{13}, and R^{14} is independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-6} alkoxy group, an aryl C_{1-6} alkoxy group, an aryl group, and a heteroaryl group), an aryl group, and a heteroaryl group; or R^{12} and R^{13}, together with nitrogen to which they bind, may form a 4- to 7-membered heterocyclic ring containing at least one nitrogen atom;

Z represents O, S, or NRa, wherein Ra represents a hydrogen atom, a C_{1-8} alkyl group, an aryl C_{1-6} alkyl group, an aryl group, or a heteroaryl group;

Cy represents a 4- to 7-membered monocyclic heterocyclic ring or a 8- to 10-membered condensed heterocyclic ring, wherein the carbon atom(s) of the heterocyclic ring may be substituted with one or more substituents selected from Group Q1, and when the heterocyclic ring contains -NH-, the nitrogen atom may be substituted with a substituent selected from Group Q2;

wherein Group Q1 consists of a C_{1-8} alkyl group, which may be substituted with one or more substituents selected from Group B, a C_{2-7} alkenyl group, which may be substituted with one or more substituents selected from Group B, a hydroxyl group, a C_{1-6} alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, an amino group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, an aryl group, and a heteroaryl group), a C_{1-6} alkylcarbonyl group, $-CONR^{21}R^{22}$, a carboxy group, a C_{1-6} alkoxycarbonyl group, which may be substituted with an aryl group, an aryloxy group, a heteroaryloxy group, an amino group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, a 4- to 7-membered heterocyclyl group (wherein the heterocyclyl group may be substituted with one or two substituents selected from a C_{1-8} alkyl group, an aryl group, an aryl C_{1-6} alkyl group, and a heteroaryl group), an oxo group, and a thioxo group;

wherein each of R^{21} and R^{22} is independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, an aryl group, an amino group, a C_{1-6} alkylamino group, and a di(C_{1-6} alkyl)amino group), an aryl group, and a heteroaryl group; or

R^{21} and R^{22}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclyl group containing at least one nitrogen atom (wherein the heterocyclyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-8} alkoxy group, and an aryl group), an aryl group, and a heteroaryl group);

wherein Group Q2 consists of a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, an amino group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, an aryl group, and a heteroaryl group), a C_{1-6} alkoxycarbonyl group, an aryl C_{1-6} alkoxycarbonyl group, an aryl group, and a heteroaryl group;

wherein Group B consists of a halogen atom, an aryl group, a heteroaryl group, an oxo group, a C_{1-6} alkylcarbonyl group, a C_{1-6} alkylaminocarbonyl group, a di(C_{1-6} alkyl)aminocarbonyl group, a C_{1-6} alkoxycarbonyl group, an azido group, $-OR^{31}$, $-NR^{32}R^{33}$, and $-S(O)_{n2}R^{39}$ (wherein n2 represents an integer from 0 to 2) ;

wherein R^{31} is selected from a hydrogen atom, $-PO(OR^{41})OR^{42}$, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, which may be substituted with a C_{1-6} alkoxy group, an aryl group, and $-NR^{34}R^{35}$), an aryl group, a heteroaryl group, a C_{1-6} alkylcarbonyl group, a C_{2-7} alkenylcarbonyl group, a C_{3-8} cycloalkylcarbonyl group (wherein the C_{1-6} alkylcarbonyl group, C_{2-7}alkenylcarbonyl group, and C_{3-8} cycloalkylcarbonyl group may be substituted with one or more

substituents selected from a hydroxyl group, $-NR^{37}R^{38}$, an aryl group, which may be substituted with a hydroxyl group, a heteroaryl group, a mercapto group, a C_{1-6} alkylthio group, a guanidyl group, a carboxy group, a C_{1-6} alkoxycarbonyl group, a C_{1-6} alkylcarbonyloxy group, an aryl C_{1-6} alkoxy group, an aminocarbonyl group, a C_{1-6} alkylaminocarbonyl group, and a di(C_{1-6} alkyl)aminocarbonyl group (wherein the C_{1-6} alkylaminocarbonyl group and di(C_{1-6} alkyl)aminocarbonyl group may be substituted with one or more substituents selected from an amino group, a C_{1-6} alkylamino group, and a di(C_{1-6} alkyl)amino group), and $-(OCHR^{74}CH_2)_1-OR^{73}$ (wherein 1 represents an integer from 1 to 20), an arylcarbonyl group, a heteroarylcarbonyl group, a 4- to 12-membered heterocyclyl carbonyl group (wherein the arylcarbonyl group, heteroarylcarbonyl group, and heterocyclyl carbonyl group may be substituted with one or more substituents selected from a hydroxyl group, a carboxy group, a C_{1-6} alkyl group, a C_{1-6} alkoxycarbonyl group, a C_{1-6} alkylcarbonyl group (wherein the C_{1-6} alkoxycarbonyl group and C_{1-6} alkylcarbonyl group may be substituted with one or more substituents selected from a hydroxyl group, $-NR^{84}R^{85}$, and a carboxy group), a C_{1-6} alkoxycarbonyl group (wherein the C_{1-6} alkoxycarbonyl group may be substituted with one or more 4- to 12-membered heterocyclyl groups), $-CONR^{71}R^{72}$, $-CO(OCHR^{76}CH_2)_k-OR^{75}$ (wherein k represents an integer from 1 to 20), and $-S(O)_{n3}R^{81}$ (wherein n3 represents an integer of 1 or 2);

each of R^{32}, R^{33}, R^{34}, R^{35}, R^{37}, R^{38}, R^{71}, R^{72}, R^{84}, and R^{85} is independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, $-(OCH_2CH_2)_m-OH$ (wherein m represents an integer from 1 to 20), a C_{1-6} alkoxycarbonyl group, an aryl group, an amino group, a C_{1-6} alkylamino group, and a di(C_{1-6} alkyl)amino group), $-S(O)_{n4}R^{83}$ (wherein n4 represents an integer of 1 or 2), a C_{1-6} alkylcarbonyl group (wherein the C_{1-6} alkylcarbonyl group may be substituted with one or more substituents selected from an amino group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, an aminocarbonyl group, an aryl group, which may be substituted with a hydroxyl group, a heteroaryl group, a hydroxyl group, a mercapto group, a C_{1-6} alkylthio group, a guanidyl group, and a carboxy group), a C_{1-6} alkylaminocarbonyl group, a C_{1-6} alkoxycarbonyl group, a 4- to 7-membered heterocyclyl carbonyl group, an aryl group, and a heteroaryl group; or

R^{32} and R^{33}, R^{34} and R^{35}, R^{37} and R^{38}, and R^{84} and R^{85}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclyl group containing at least one nitrogen atom (wherein the heterocyclyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-8} alkoxy group, and an aryl group), a C_{1-8} alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-8} alkoxy group, and an aryl group), an aryl group, and a heteroaryl group) ;

each of R^{39} and R^{83} is independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-6} alkoxy group, an aryl C_{1-6} alkoxy group, an aryl group, and a heteroaryl group), a C_{2-8} alkenyl group, a C_{3-6} cycloalkyl group, an aryl group, and a heteroaryl group;

each of R^{41} and R^{42} is independently selected from a hydrogen atom, an aryl C_{1-6} alkyl group, and a C_{1-8} alkyl group;

each of R^{73} and R^{75} is independently selected from a hydrogen atom, a C_{1-6} alkyl group, which may be substituted with one or more hydroxyl groups, and an aryl C_{1-6} alkyl group;

each occurrence of R^{74} and R^{76} is independently selected from a hydrogen atom, a C_{1-6} alkyl group, a C_{1-6} alkyl group, which is substituted with a hydroxyl group, and $-CH_2(OCH_2CH_2)_i-OR^{80}$ (wherein i represents an integer from 1 to 20) ;

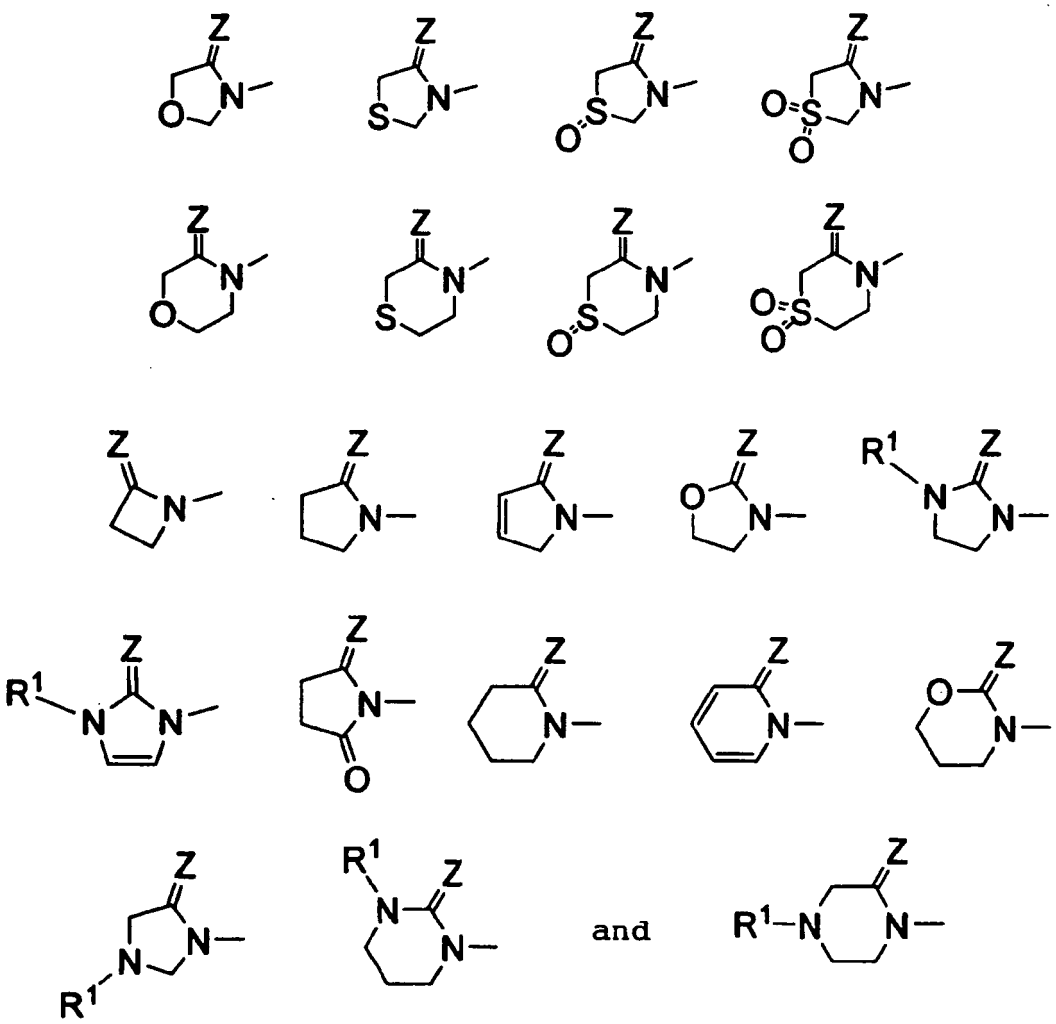
R^{80} is selected from a hydrogen atom, an aryl C_{1-6} alkyl group, and a C_{1-6} alkyl group, which may be substituted with one or more hydroxyl groups; and

R^{81} represents a C_{1-6} alkyl group,

or a pharmaceutically acceptable salt thereof.

[0008] In one aspect of the present invention, Cy is not particularly limited. It may be a heterocyclic ring selected from the following group, for example:

[Formula 2]

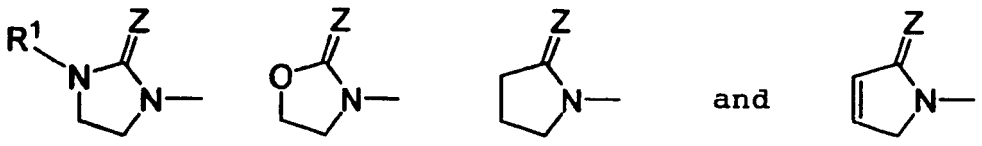


wherein the carbon atom(s) of the heterocyclic ring may be substituted with one or more substituents selected from Group Q1 ; and

R^1 represents a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, an amino group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, an aryl group, and a heteroaryl group), a C_{1-6} alkoxycarbonyl group, an aryl C_{1-6} alkoxycarbonyl group, an aryl group, or a heteroaryl group.

[0009] In another aspect of the present invention, Cy may be a heterocyclic ring selected from the following group:

[Formula 3]



[0010] In another aspect of the present invention, the carbon atom(s) of Cy are substituted with one or two groups selected from a hydroxyl group, and the groups -C(=O)-OR^{50}, - $CR^{51}R^{52}$-OR^{53}, -$CR^zR^qCR^{51}R^{52}$-OR^{53}, -C(=O)-$NR^{54}R^{55}$, and -$CR^{51}R^{52}$-$NR^{56}R^{57}$;

R^{50} represents a hydrogen atom or a C_{1-6} alkyl group (wherein the alkyl group may be substituted with a hydroxyl group or a C_{1-6} alkoxy group);
each of R^{51} and R^{52} is independently selected from a hydrogen atom, a C_{1-3} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group and an amino group), and a C_{2-3} alkenyl group;
each of R^z and R^q is independently selected from a hydrogen atom and a C_{1-3} alkyl group;
R^{53} represents a hydrogen atom, a C_{1-6} alkyl group (wherein the alkyl group may be substituted with 1 to 3 substituents selected from an aryl group, a hydroxyl group, a C_{1-6} alkoxy group, a C_{1-6} alkoxy C_{1-6} alkoxy group, and $-NR^xR^y$), a C_{1-6} alkylcarbonyl group (wherein the alkylcarbonyl group may be substituted with 1 to 3 substituents selected from a hydroxyl group, a C_{1-3} alkoxy group, an aryl group, $-NR^{61}R^{62}$, a carboxy group, $-CONR^{63}R^{64}$, and $-(OCHR^{74}CH_2)_1-OR^{73}$ (wherein R^{73}, R^{74}, and 1 are the same as those defined above)), an arylcarbonyl group or a 4- to 7-membered heterocyclyl carbonyl group (wherein the arylcarbonyl group and heterocyclyl carbonyl group may be substituted with one or more substituents selected from a carboxy group, a C_{1-6} alkoxycarbonyl group, and a C_{1-6} alkylcarbonyl group (wherein the C_{1-6} alkoxycarbonyl group and C_{1-6} alkylcarbonyl group may be substituted with one or more substituents selected from $-NR^{61}R^{62}$, a carboxy group, and a hydroxyl group)), or $-CO(OCHR^{16}CH_2)_k-OR^{75}$ (wherein R^{75}, R^{76}, and k are the same as those defined above),
each of R^{54} and R^{55} is independently selected from a hydrogen atom and a C_{1-6} alkyl group (wherein the alkyl group may be substituted with a hydroxyl group or an amino group); or R^{54} and R^{55}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclic ring (wherein the heterocyclic ring may be substituted with 1 to 3 substituents selected from a hydroxyl group and a hydroxy C_{1-6} alkyl group);
each of R^{56} and R^{57} is independently selected from a hydrogen atom, a C_{1-6} alkyl group (wherein the alkyl group may be substituted with a hydroxyl group or an amino group), and a C_{1-6} alkylsulfonyl group (wherein the alkylsulfonyl group may be substituted with a hydroxyl group or an amino group); or R^{56} and R^{57}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclic ring (wherein the heterocyclic ring may be substituted with 1 to 3 substituents selected from a hydroxyl group and a hydroxy C_{1-6} alkyl group);
each of R^{61} and R^{62} is independently selected from a hydrogen atom, a C_{1-6} alkyl group, and a C_{1-6} alkylcarbonyl group (wherein the alkylcarbonyl group may be substituted with 1 to 3 substituents selected from a hydroxyl group, a C_{1-3} alkoxy group, an aryl group, an amino group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, and a carboxy group); or R^{61} and R^{62}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclic ring;
each of R^x and R^y is independently selected from a hydrogen atom and a C_{1-6} alkyl group, and
each of R^{63} and R^{64} is independently selected from a hydrogen atom and a C_{1-6} alkyl group (wherein the alkyl group may be substituted with a hydroxyl group or an amino group); or R^x and R^y, or R^{63} and R^{64}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclic ring.

[0011] In another aspect of the present invention, the substituent(s) on the ring carbon atom(s) of Cy are selected from a hydroxyl group, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, a 4- to 7-membered heterocyclyl group containing at least one nitrogen atom (wherein the heterocyclyl group may be substituted with a hydroxyl group, or a C_{1-6} alkyl group, which may be substituted with a hydroxyl group), a C_{1-6} alkylcarbonyloxy group (wherein the C_{1-6} alkylcarbonyloxy group may be substituted with one or two substituents selected from a hydroxyl group and $-(OCH_2CH_2)_1-OR^{73}$ (wherein R^{73} and 1 are the same as those defined above), $-OCO(OCHR^{76}CH_2)_k-OR^{75}$ (wherein R^{75}, R^{76}, and k are the same as those defined above)), and $-CONR^{91}R^{92}$;
wherein each of R^{91} and R^{92} is selected from a hydrogen atom and a C_{1-6} alkyl group; or R^{91} and R^{92}, together with nitrogen to which they bind, may form a 4- to 7-membered heterocyclic ring containing at least one nitrogen atom (wherein the heterocyclyl group may be substituted with a hydroxyl group).

[0012] In still another aspect of the present invention, the substituent(s) on the ring carbon atom(s) of Cy are selected from a hydroxyl group and a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, and a 4- to 7-membered heterocyclyl group containing at least one nitrogen atom (wherein the heterocyclyl group may be substituted with a hydroxyl group)).

[0013] In yet another aspect, the present invention provides the compound represented by the formula (1) and a pharmaceutically acceptable salt thereof,
wherein the carbon atom(s) of Cy are substituted with the group $-CR^{51}R^{52}-OR^{53}$;
wherein each of R^{51} and R^{52} is independently selected from a hydrogen atom, a C_{1-3} alkyl group (wherein the alkyl group may be substituted with a hydroxyl group or an amino group), and a C_{2-3} alkenyl group;
R^{53} is selected from a hydrogen atom, $-PO(OR^{41})OR^{42}$, a C_{1-6} alkylcarbonyl group, a C_{3-8} cycloalkylcarbonyl group (wherein the C_{1-6} alkylcarbonyl group and C_{3-8} cycloalkylcarbonyl group may be substituted with one or more substituents selected from a hydroxyl group, $-NR^{37}R^{38}$, an aryl group, a carboxy group, a C_{1-6} alkoxycarbonyl group, a C_{1-6} alkylaminocarbonyl group, and a di(C_{1-6} alkyl)aminocarbonyl group (wherein the C_{1-6} alkylaminocarbonyl group and di(C_{1-6} alkyl) aminocarbonyl group may be substituted with one or more substituents selected from an amino group, a C_{1-6} alkylamino group, and a di(C_{1-6} alkyl)amino group)), an arylcarbonyl group, and a 4- to 7-membered heterocyclyl carbonyl group

(wherein the arylcarbonyl group and heterocyclyl carbonyl group may be substituted with one or more substituents selected from a carboxy group, a C_{1-6} alkoxycarbonyl group, a C_{1-6} alkylcarbonyl group (wherein the C_{1-6} alkoxycarbonyl group and C_{1-6} alkylcarbonyl group may be substituted with one or more substituents selected from a hydroxyl group, $-NR^{37}R^{38}$, a carboxy group, and a hydroxyl group));

each of R^{37} and R^{38} is independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, an aryl group, an amino group, a C_{1-6} alkylamino group, and a di(C_{1-6} alkyl)amino group), $-S(O)_{n2}R^{39}$ (wherein n2 represents an integer of 1 or 2), a C_{1-6} alkylcarbonyl group (wherein the C_{1-6} alkylcarbonyl group may be substituted with one or more substituents selected from an amino group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, and an aryl group), a C_{1-6} alkylaminocarbonyl group, a C_{1-6} alkoxycarbonyl group, an aryl group, and a heteroaryl group; or

R^{37} and R^{38}, together with a nitrogen atom to which they bind, may form a 4- to 7-heterocyclyl group containing at least one nitrogen atom (wherein the heterocyclyl group may be substituted with a hydroxyl group, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with a hydroxyl group, a C_{1-8} alkoxy group, or an aryl group), a C_{1-8} alkoxy group (wherein the alkoxy group may be substituted with a hydroxyl group, a C_{1-8} alkoxy group, or an aryl group), an aryl group, or a heteroaryl group);

R^{39} is selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-6} alkoxy group, an aryl C_{1-6} alkoxy group, an aryl group, and a heteroaryl group), a C_{2-8} alkenyl group, a C_{3-6} cycloalkyl group, an aryl group, and a heteroaryl group; and

each of R^{41} and R^{42} is independently selected from a hydrogen atom, an aryl C_{1-6} alkyl group, and a C_{1-8} alkyl group.

[0014] In still another aspect of the present invention, the substituent(s) on the ring carbon atom(s) of Cy are selected from a hydroxyl group, a hydroxymethyl group, and a 1-hydroxy-1-methylethyl group.

[0015] In still another aspect of the present invention, a substituent on the ring nitrogen atom of Cy is selected from an C_{1-8} alkyl group (wherein the alkyl group may be substituted with a hydroxyl group).

[0016] In yet another aspect of the present invention, the substituent(s) on the ring carbon atom(s) of Cy are $-CH_2-OCOCH_2-(OCH_2CH_2)_1-OR^{73}$ (wherein R^{73} and l are the same as those defined above), a propionyloxymethyl group, which is substituted with one or two hydroxyl groups, or $-CH_2-OCO(OCHR^{76}CH_2)_k-OR^{75}$ (wherein R^{75}, R^{76}, and k are the same as those defined above).

[0017] In one aspect of the present invention, Z is preferably O. In addition, the substituent(s) on the ring carbon atom (s) of Cy are not particularly limited. For example, it may be selected from a hydroxyl group and a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-6} alkylcarbonylamino group, and a 4- to 7-membered heterocyclyl group containing at least one nitrogen atom (wherein the heterocyclyl group may be substituted with a hydroxyl group), and in particular, it may be substituted with a hydroxyl group).

[0018] In one aspect of the present invention, X may be an aryl group, which may be substituted with one or more substituents selected from Group A1; wherein Group A1 consists of a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom and $-NR^{12}R^{13}$), a halogen atom, a hydroxyl group, an aryl group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C_{1-8} alkyl group and an aryl group), $-SR^{14}$, a C_{1-6} alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from $-OR^{11}$ and a halogen atom), and a 4- to 7-membered heterocyclyl group (wherein the heterocyclyl group may be substituted with one or two substituents selected from C_{1-8} alkyl groups); wherein each of R^{11}, R^{12}, R^{13}, and R^{14} is independently selected from a hydrogen atom, a C_{1-8} alkyl group, and an aryl group; or R^{12} and R^{13}, together with nitrogen to which they bind, may form a 4- to 7-membered heterocyclic ring containing at least one nitrogen atom.

[0019] In one aspect of the present invention, X may be an aryl group, which may be substituted with one or more substituents selected from a halogen atom, a C_{1-6} alkyl group, a halo C_{1-6} alkyl group, a C_{1-6} alkoxy group, a halo C_{1-6} alkoxy group, an aryl group, and a 4- to 7-membered heterocyclyl group. More specifically, X is an aryl group, and the aryl group may be substituted with an ethyl group, a trifluoromethyl group, a trifluoromethoxy group, an ethoxy group, a propoxy group, a phenyl group, or a morpholinyl group.

[0020] In another aspect, the present invention provides a pharmaceutical composition, which comprises, as an active ingredient, the compound represented by the formula (1), or a pharmaceutically acceptable salt thereof.

[0021] In a further aspect, the present invention provides a therapeutic and preventive agent for use in the treatment of malignant tumor such as solid cancer, which comprises, as an active ingredient, the compound represented by the formula (1), or a pharmaceutically acceptable salt thereof.

[0022] The present invention provides a 1-(2H)-isoquinolone derivative, which has excellent antitumor action and also has preferred properties as a pharmaceutical in terms of water solubility and safety. In addition, the present invention provides a compound, which is useful as a therapeutic and preventive agent effective for proliferative diseases such as cancer, a production method thereof, an intermediate compound useful for such production, and a pharmaceutical composition comprising such a compound.

[0023] In the present invention, the term "aryl group" is used to mean an aromatic hydrocarbon group containing 6 to 10 carbon atoms, which includes phenyl, 1-naphthyl, 2-naphthyl, and others.

[0024] In the present invention, the term "heteroaryl group" is used to mean a 5- to 10-membered aromatic heterocyclyl group containing one or more heteroatoms selected from an oxygen atom, a nitrogen atom, and a sulfur atom. Examples of such a heteroaryl group may include furyl, thienyl, pyrrolyl, imidazolyl, pyrazolyl, oxazolyl, isoxazolyl, thiazolyl, isothiazolyl, oxadiazolyl, thiadiazolyl, triazolyl, tetrazolyl, pyridinyl, pyrimidinyl, pyrazinyl, pyridazinyl, indolyl, quinolinyl, isoquinolyl, and benzimidazolyl.

[0025] In the present invention, the term "halogen atom" is used to mean a fluorine atom, a chlorine atom, a bromine atom, an iodine atom, or the like. A preferred example of such a halogen atom is a fluorine atom.

[0026] In the present invention, the term "C_{1-8} alkyl group" means a linear or branched alkyl group containing 1 to 8 carbon atoms, or a cyclic or partially cyclic alkyl group containing 3 to 8 carbon atoms. Examples of such a C_{1-8} alkyl group may include methyl, ethyl, n-propyl, i-propyl, n-butyl, s-butyl, i-butyl, t-butyl, n-pentyl, 3-methylbutyl, 2-methylbutyl, 1-methylbutyl, 1-ethylpropyl, n-hexyl, 4-methylpentyl, 3-methylpentyl, 2-methylpentyl, 1-methylpentyl, 3-ethylbutyl, 2-ethylbutyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, cyclooctyl, methylcyclopropyl, cyclopropylmethyl, and methylhexyl. A preferred example of such a C_{1-8} alkyl group is a linear or branched C_{1-8} alkyl group, and a more preferred example is a linear or branched C_{1-6} alkyl group.

[0027] In the present invention, the term "C_{2-7} alkenyl group" is used to mean a linear or branched alkenyl group containing 2 to 7 carbon atoms. Examples of such a C_{2-7} alkenyl group may include ethenyl(vinyl), 1-propenyl, 2-propenyl (allyl), propen-2-yl, 3-butenyl(homoallyl), and 1,4-pentadien-3-yl.

[0028] In the present invention, the term "C_{2-7} alkynyl group" is used to mean a linear or branched alkynyl group containing 2 to 7 carbon atoms. Examples of such a C_{2-7} alkynyl group may include ethynyl, 1-propynyl, 2-propynyl, 1-butynyl, 2-butynyl, and 3-butynyl.

[0029] In the present invention, the term "C_{1-6} alkoxy group" means an alkyloxy group having a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms, as alkyl portions thereof. Examples of such a C_{1-6} alkoxy group may include methoxy, ethoxy, n-propoxy, i-propoxy, n-butoxy, s-butoxy, i-butoxy, t-butoxy, n-pentoxy, 3-methylbutoxy, 2-methylbutoxy, 1-methylbutoxy, 1-ethylpropoxy, n-hexyloxy, 4-methylpentoxy, 3-methylpentoxy, 2-methylpentoxy, 1-methylpentoxy, 3-ethylbutoxy, 2-ethylbutoxy, cyclopropoxy, cyclobutoxy, cyclopentoxy, cyclohexyloxy, and cyclopropylmethoxy.

[0030] In the present invention, the term "aryloxy group" is used to mean an aryloxy group having, as an aryl portion thereof, an aromatic hydrocarbon group containing 6 to 10 carbon atoms, which has already been defined above. Examples of such an aryloxy group may include phenoxy, 1-naphthoxy, and 2-naphthoxy.

[0031] In the present invention, the term "heteroaryloxy group" is used to mean a heteroaryloxy group having, as a heteroaryl portion thereof, a 5- to 10-membered aromatic heterocyclyl group containing a heteroatom selected from at least one oxygen atom, nitrogen atom, and sulfur atom, which has already been defined above. Examples of such a heteroaryloxy group may include furyloxy, thienyloxy, pyrrolyloxy, imidazolyloxy, pyrazolyloxy, oxazolyloxy, isoxazolyloxy, thiazolyloxy, isothiazolyloxy, oxadiazolyloxy, thiadiazolyloxy, triazolyloxy, tetrazolyloxy, pyridinyloxy, pyrimidinyloxy, pyrazinyloxy, pyridazinyloxy, indolyloxy, quinolinyloxy, and isoquinolinyloxy.

[0032] In the present invention, the term "heteroarylcarbonyl group" is used to mean a heteroarylcarbonyl group having, as a heteroaryl portion thereof, a 5- to 10-membered aromatic heterocyclyl group containing a heteroatom selected from at least one oxygen atom, nitrogen atom, and sulfur atom, which has already been defined above. Examples of such a heteroarylcarbonyl group may include furylcarbonyl, thienylcarbonyl, pyrrolylcarbonyl, imidazolylcarbonyl, pyrazolylcarbonyl, oxazolylcarbonyl, isoxazolylcarbonyl, thiazolylcarbonyl, isothiazolylcarbonyl, oxadiazolylcarbonyl, thiadiazolylcarbonyl, triazolylcarbonyl, tetrazolylcarbonyl, pyridinylcarbonyl, pyrimidinylcarbonyl, pyrazinylcarbonyl, pyridazinylcarbonyl, indolylcarbonyl, quinolinylcarbonyl, and isoquinolinylcarbonyl.

[0033] In the present invention, the term "haloC_{1-6} alkyl group" means an alkyl group substituted with one or more halogen atoms, which has, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms. Examples of such a haloC_{1-6} alkyl group may include trifluoromethyl, trichloromethyl, chlorodifluoromethyl, 2,2,2-trifluoroethyl, perfluoroethyl, 2,2,2-trichloroethyl, bromomethyl, dibromomethyl, tribromomethyl, iodomethyl, difluoromethyl, and dichloromethyl.

[0034] In the present invention, the term "haloC_{1-6} alkoxy group" means an alkoxy group substituted with one or more halogen atoms, which has, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms. Examples of such a haloC_{1-6}alkoxy group may include trifluoromethoxy, trichloromethoxy, chlorodifluoromethoxy, 2,2,2-trifluoroethoxy, perfluoroethoxy, 2,2,2-trichloroethoxy, bromomethoxy, dibromomethoxy, tribromomethoxy, iodomethoxy, difluoromethoxy, and dichloromethoxy.

[0035] In the present invention, the term "C_{1-6} alkylamino group" means an alkylamino group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms. Examples of such a C_{1-6} alkylamino group may include methylamino, ethylamino, n-propylamino, i-propylamino, n-butylamino, s-butylamino, i-butylamino, t-butylamino, n-pentylamino, 3-methylbutylamino,

2-methylbutylamino, 1-methylbutylamino, 1-ethylpropylamino, n-hexylamino, 4-methylpentylamino, 3-methylpentylamino, 2-methylpentylamino, 1-methylpentylamino, 3-ethylbutylamino, and 2-ethylbutylamino.

[0036] In the present invention, the term "di(C_{1-6} alkyl) amino group" means dialkylamino group having, as two alkyl portions, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms. The two alkyl portions may be either identical to or different from each other. Examples of such a "di(C_{1-6} alkyl)amino group" may include dimethylamino, diethylamino, di-n-propylamino, di-i-propylamino, di-n-butylamino, methyl-n-butylamino, methyl-s-butylamino, methyl-i-butylamino, methyl-t-butylamino, ethyl-n-butylamino, ethyl-s-butylamino, ethyl-i-butylamino, and ethyl-t-butylamino.

[0037] In the present invention, the term "C_{1-6} alkylcarbonyl group" means an alkylcarbonyl group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms.

[0038] In addition, in the present invention, the term "C_{1-6} alkoxycarbonyl group (wherein the alkoxycarbonyl group may be substituted with one or more substituents selected from an amino group, a guanidyl group, a carboxy group, a mercapto group, an aminocarbonyl group, a methylthio group, a phenyl group, which may be substituted with a hydroxyl group, a hydroxyl group, and an indolyl group)" also includes an α-amino acid-derived group (a group obtained by conversion of a carboxy group to a carbonyl group), such as alanine, arginine, asparagine, aspartic acid, cysteine, glutamine, glutamic acid, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, serine, threonine, tryptophan, tyrosine, or valine.

[0039] In the present invention, the term "C_{2-7} alkenylcarbonyl group" is used to mean an alkenylcarbonyl group having, as an alkenyl portion thereof, a linear or branched alkenyl group containing 2 to 7 carbon atoms. Examples of such a C_{2-7} alkenylcarbonyl group may include ethenylcarbonyl(vinylcarbonyl), 1-propenylcarbonyl, 2-propenylcarbonyl(allylcarbonyl), propen-2-ylcarbonyl, 3-butenylcarbonyl(homoallylcarbonyl), and 1,4-pentadien-3-ylcarbonyl.

[0040] In the present invention, the term "C_{1-6} alkylcarbonylamino group" means an alkylcarbonylamino group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms.

[0041] In the present invention, the term "C_{1-6} alkylcarbonyloxy group" means an alkylcarbonyloxy group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms.

[0042] In the present invention, the term "C_{1-6} alkoxycarbonyl group" means an alkoxycarbonyl group having, as alkoxy portions thereof, a linear or branched alkoxy group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkoxy group containing 3 to 6 carbon atoms.

[0043] In the present invention, the term "C_{1-6} alkylaminocarbonyl group" means an alkylaminocarbonyl group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms.

[0044] In the present invention, the term "di(C_{1-6} alkyl)aminocarbonyl group" means a dialkylaminocarbonyl group having, as two alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms, which may be either identical to or different from each other.

[0045] In the present invention, the term "amino C_{1-6} alkoxycarbonyl group" means an aminoalkoxycarbonyl group having, as alkoxy portions thereof, a linear or branched alkoxy group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkoxy group containing 3 to 6 carbon atoms.

[0046] In the present invention, the term "hydroxy C_{1-6} alkyl group" means a hydroxyalkyl group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms.

[0047] In the present invention, the term "C_{1-6} alkylthio group" means an alkylthio group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms. Examples of such a C_{1-6} alkylthio group may include methylthio, ethylthio, n-propylthio, i-propylthio, n-butylthio, s-butylthio, i-butylthio, t-butylthio, n-pentylthio, 3-methylbutylthio, 2-methylbutylthio, 1-methylbutylthio, 1-ethylpropylthio, n-hexylthio, 4-methylpentylthio, 3-methylpentylthio, 2-methylpentylthio, 1-methylpentylthio, 3-ethylbutylthio, and 2-ethylbutylthio.

[0048] In the present invention, the term "aryl C_{1-6} alkyl group" means an aralkyl group, which has, as an aryl group thereof, the defined aromatic hydrocarbon group containing 6 to 10 carbon atoms, and as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms. Examples of such an aryl C_{1-6} alkyl group may include benzyl, 1-phenethyl, and 2-phenethyl.

[0049] In the present invention, the term "aryl C_{1-6} alkoxy group" means an aralkyloxy group, which has, as an aryl group thereof, the defined aromatic hydrocarbon group containing 6 to 10 carbon atoms, and as alkoxy portions thereof, a linear or branched alkoxy group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkoxy group containing 3 to 6 carbon atoms. Examples of such an aryl C_{1-6} alkoxy group may include benzyloxy, 1-phenethyloxy, and 2-phenethyloxy.

[0050] In the present invention, the term "a 4- to 7-membered heterocyclic ring containing at least one nitrogen atom" is used to mean a saturated or unsaturated heterocyclic ring containing 4 to 7 atoms in the ring thereof, which contains one or more nitrogen atoms and may also contain one or more heteroatoms selected from an oxygen atom and a sulfur atoms. Such a heterocyclic ring may have a monocyclic ring, condensed ring, or spiro ring skeleton. An aromatic heterocyclic ring is also included therein. Specific examples may include azetidine, pyrrolidine, piperidine, piperazine, pyrrole, imidazole, imidazoline, imidazolidine, pyrazole, pyrazoline, oxazoline, oxazolidine, morpholine, thiomorpholine, and hexamethyleneimine.

[0051] In the present invention, the term "4- to 7-heterocyclyl group containing at least one nitrogen atom" is used to mean a saturated or unsaturated heterocyclyl group containing 4 to 7 atoms in the ring thereof, which contains one or more nitrogen atoms and may also contain one or more heteroatoms selected from an oxygen atom and a sulfur atom. Such a heterocyclyl group may have a monocyclic ring, condensed ring, or spiro ring skeleton. An aromatic heterocyclyl group is also included therein. Specific examples may include azetidinyl, pyrrolidinyl, piperidinyl, piperazinyl, pyrrolyl, imidazolyl, imidazolinyl, imidazolidinyl, pyrazolyl, pyrazolinyl, oxazolinyl, oxazolidinyl, morpholinyl, thiomorpholinyl, pyridinyl, pyrazinyl, pyrimidinyl, pyridazinyl, oxazolidinyl, hexamethyleneimino, and octahydroisoquinolyl. The position of the heterocyclyl group to be substituted is not particularly limited, as long as it is a substitutable position on a carbon atom or nitrogen atom.

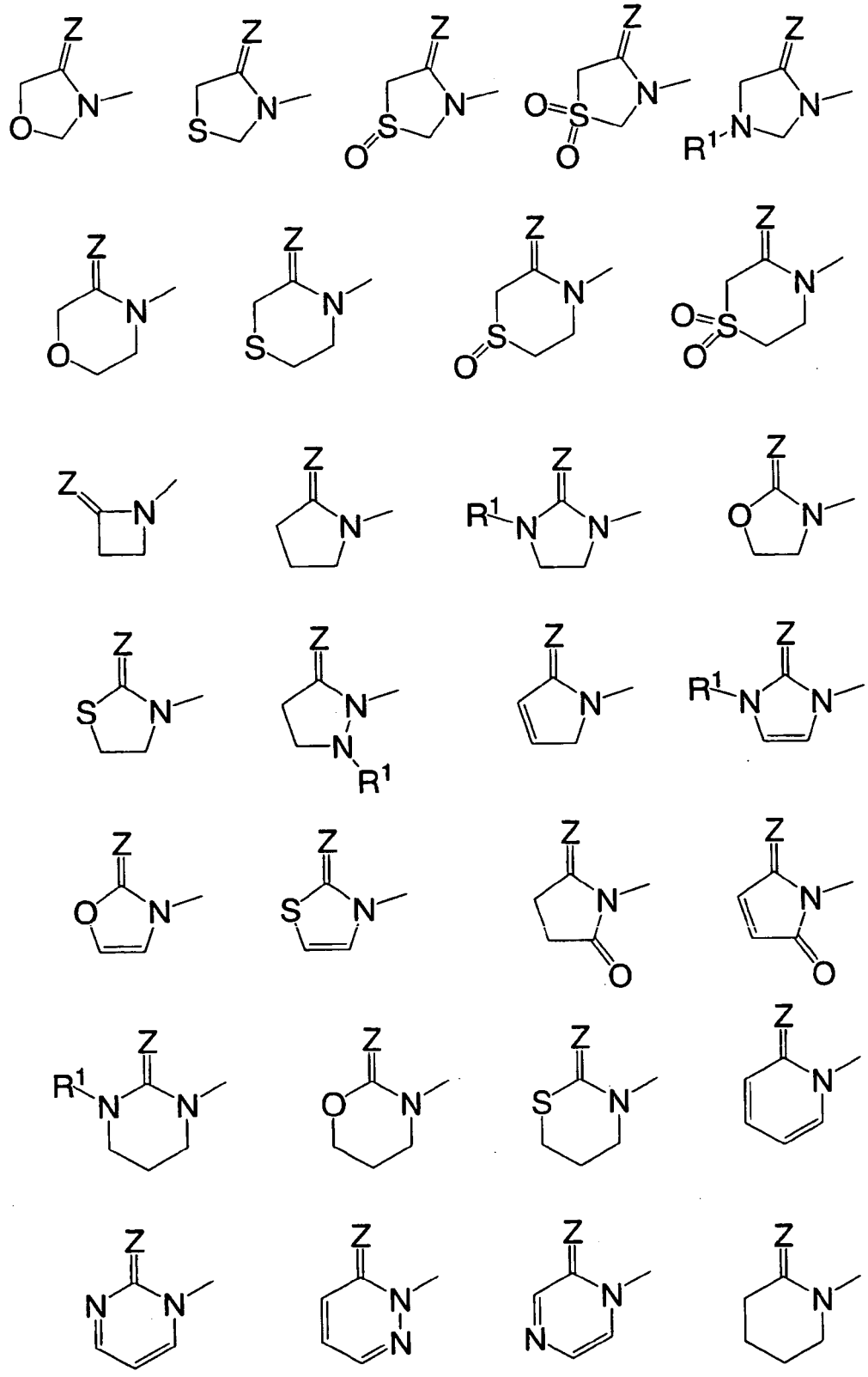
[0052] In the present invention, the term "4- to 12-membered heterocyclyl group" is used to mean a saturated or unsaturated heterocyclyl group containing 4 to 12 atoms in the ring therof, which may contain one or more heteroatoms selected from a nitrogen atom, an oxygen atom, and a sulfur atom. The heterocyclic ring may have a monocyclic ring, condensed ring, or spiro ring skeleton. An aromatic heterocyclic ring is also included therein. Specific examples may include isobenzofuranyl, chromenyl, indolizinyl, indolyl, isoindolyl, indazolyl, puryl, quinolizinyl, isoquinolinyl, quinolinyl, phthalazinyl, naphthyridinyl, quinoxalinyl, quinazolinyl, cinnnolinyl, pteridinyl, isochromanyl, chromanyl, quinuclidinyl, oxacycloheptyl, dioxacycloheptyl, thiacycloheptyl, diazacycloheptyl, oxacyclooctyl, dioxacyclooctyl, azacyclooctyl, diazacyclooctyl, azaoxacyclooctyl, thiacyclooctyl, dithiacyclooctyl, thiaoxacyclooctyl, azathiacyclooctyl, oxacyclononyl, dioxacyclononyl, trioxacyclononyl, azacyclononyl, azaoxacyclononyl, triazacyclononyl, thiacyclononyl, dithiacyclononyl, azadithiacyclononyl, oxacyclodecanyl, dioxacyclodecanyl, trioxacyclodecanyl, azacyclodecanyl, diazacyclodecanyl, azaoxacyclodecanyl, azadioxacyclodecanyl, diazaoxacyclodecanyl, thiacyclodecanyl, dithiacyclodecanyl, trithiacyclodecanyl, azathiacyclodecanyl, diazathiacyclodecanyl, oxacycloundecanyl, dioxacycloundecanyl, trioxacycloundecanyl, azacycloundecanyl, diazacycloundecanyl, triazacycloundecanyl, thiacycloundecanyl, dithiacycloundecanyl, trithiacycloundecanyl, azaoxacycloundecanyl, azathiacycloundecanyl, azadioxacycloundecanyl, diazaoxacycloundecanyl, azathiacycloundecanyl, diazathiacycloundecanyl, azadithiacycloundecanyl, oxacyclododecanyl, dioxacyclododecanyl, trioxacyclododecanyl, tetraoxacyclododecanyl, azacyclododecanyl, diazacyclododecanyl, triazacyclododecanyl, tetraazacyclododecanyl, thiacyclododecanyl, dithiacyclododecanyl, trithiacyclododecanyl, tetrathiacyclododecanyl, azaoxacyclododecanyl, azathiacyclododecanyl, diazaoxacyclododecanyl, azadioxacyclododecanyl, azatrioxacyclododecanyl, azadithiacyclododecanyl, diazadithiacyclododecanyl, azatrithiacyclododecanyl, as well as specific examples of "4- to 7-membered heterocyclyl group described later. The position of the heterocyclyl group to be substituted is not particularly limited, as long as it is a substitutable position on a carbon atom or nitrogen atom. In addition, when the heterocyclyl group has -NH- in the ring thereof, the substituent of the heterocyclic ring may be present on a carbon atom or a nitrogen atom, unless otherwise specified.

In the present invention, the term "4- to 7-membered heterocyclic ring" is used to mean a saturated or unsaturated heterocyclyl group containing 4 to 7 atoms in the ring thereof, which may contain one or more heteroatoms selected from a nitrogen atom, an oxygen atom, and a sulfur atom. The heterocyclic ring may have a monocyclic ring, condensed ring, or spiro ring skeleton. An aromatic heterocyclic ring is also included therein. Specific examples may include azetidinyl, pyrrolidinyl, piperidinyl, piperazinyl, pyrrolyl, imidazolyl, imidazolinyl, pyrazolyl, pyrazolinyl, oxazolinyl, morpholinyl, thiomorpholinyl, pyridinyl, pyrazinyl, pyrimidinyl, pyridazinyl, hexamethyleneimino, furyl, tetrahydrofuryl, thienyl, tetrahydrothienyl, dioxolanyl, oxathiolanyl, and dioxanyl. The position of the heterocyclyl group to be substituted is not particularly limited, as long as it is a substitutable position on a carbon atom or nitrogen atom. In addition, when the heterocyclyl group has -NH- in the ring thereof, the substituent of the heterocyclic ring may be present on a carbon atom or a nitrogen atom, unless otherwise specified. Specific examples of such a heterocyclic ring having a substituent(s) may include methyldioxolanyl, dimethyldioxolanyl, ethyldioxolanyl, diethyldioxolanyl, hydroxypiperidinyl, hydroxymethylpiperidinyl, hydroxyethylpiperidinyl, methoxypiperidinyl, ethoxypiperidinyl, methylthiopiperidinyl, carboxytetrahydrofuryl, hydroxytetrahydrofuryl, dihydroxytetrahydrofuryl, trihydroxytetrahydrofuryl, hydroxytetrahydropyranyl, dihydroxytetrahydropyranyl, trihydroxytetrahydropyranyl, tetrahydroxytetrahydropyranyl, phenyltetrahydrothienyl, methoxycarbonyldioxolanyl, and methylcarbonylpiperazinyl.

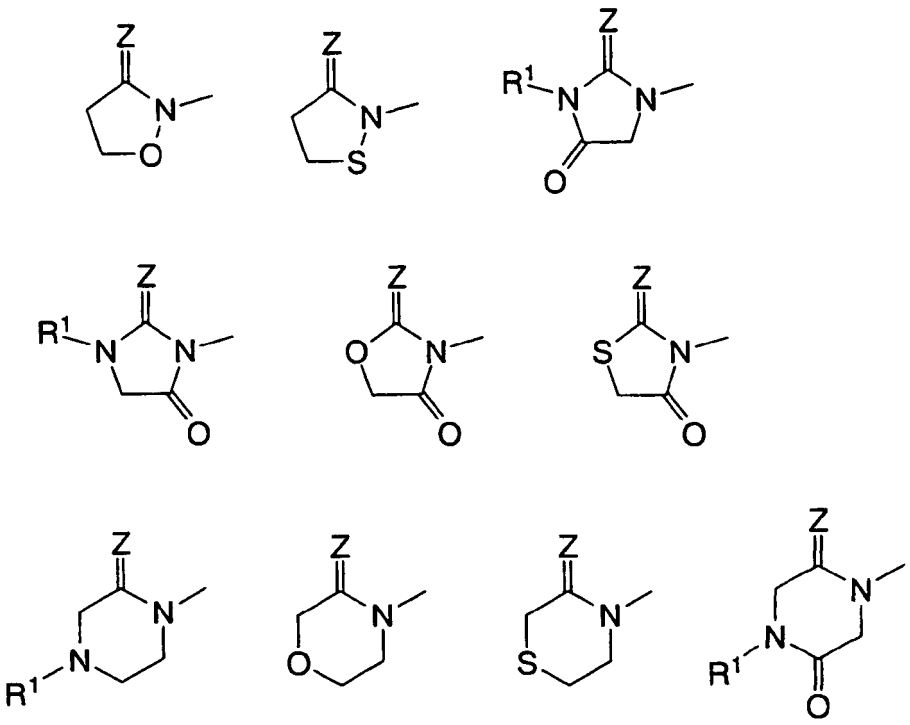
[0053] In the present invention, the term "4- to 7-membered monocyclic heterocyclic ring" is used to mean a saturated or unsaturated monocyclic heterocyclyl group containing 4 to 7 atoms in the ring thereof, which contains one or more heteroatoms selected from a nitrogen atom, an oxygen atom, and a sulfur atom. An aromatic monocyclic heterocyclic ring is also included therein. Further, when the heterocyclic ring has -NH- in the ring thereof, the substituent of the

heterocyclic ring may be present on a carbon atom or a nitrogen atom, unless otherwise specified. When Cy in the formula (1) is a 4- to 7-membered monocyclic heterocyclic ring, examples of a group consisting of Cy substituted with the group Z= may include the following groups:

[Formula 4]



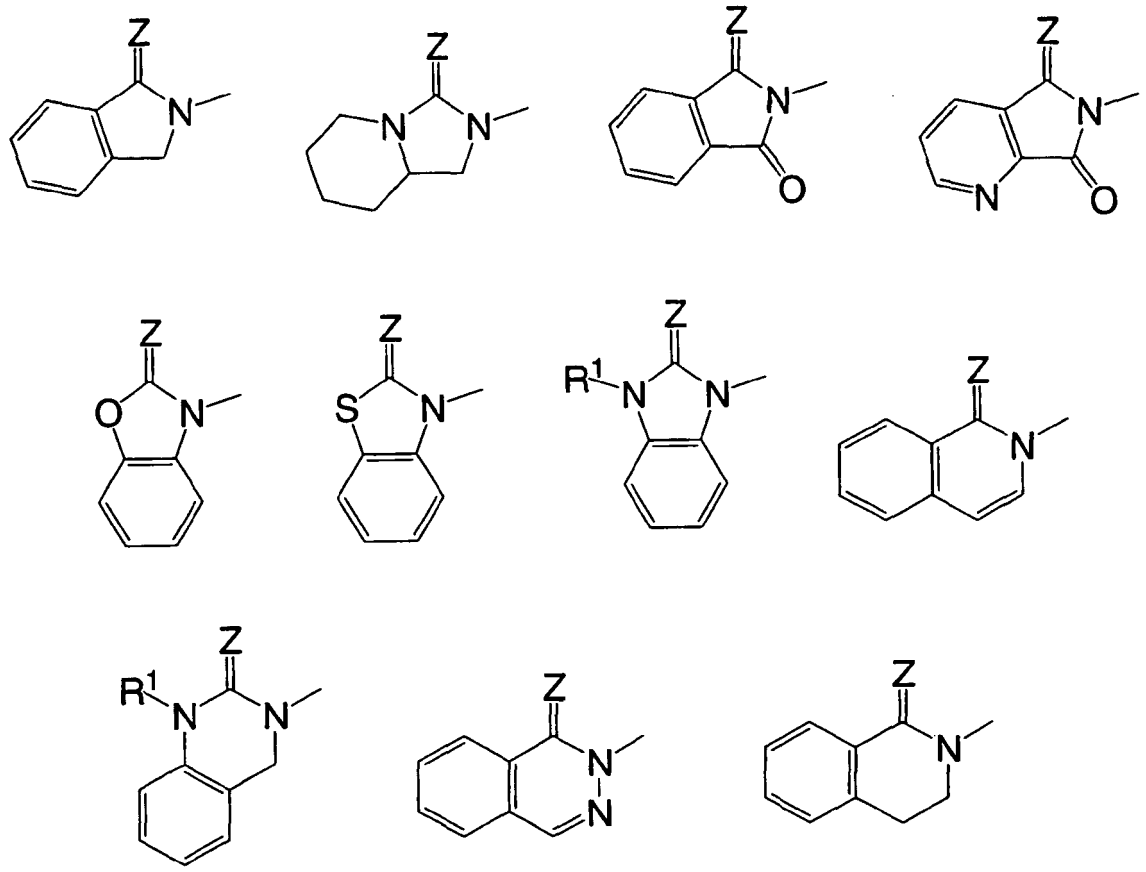
[Formula 5]



[0054] wherein R^1 is the same as defined above, and each heterocyclic ring may have a substituent as defined above.

[0055] In the present invention, the term "8- to 10-membered condensed heterocyclic ring" is used to mean a saturated or unsaturated cyclic heterocyclyl group containing 8 to 10 atoms in the ring thereof, which contains one or more heteroatoms selected from a nitrogen atom, an oxygen atom, and a sulfur atom. An aromatic cyclic heterocyclic ring is also included therein. When Cy in the formula (1) is a 8- to 10-membered condensed heterocyclic ring, examples of a group consisting of Cy substituted with the group Z= may include the following groups:

[Formula 6]



[0056] wherein R^1 is the same as defined above, and each heterocyclic ring may have a substituent as defined above.

[0057] In the present invention, the term "4- to 12-membered heterocyclyl carbonyl group" is used to mean a heterocyclyl carbonyl group having a saturated or unsaturated heterocyclyl group containing 4 to 12 atoms in the ring thereof, which may contain, as a 4- to 12-membered heterocyclic ring portion thereof, one or more heteroatoms selected from a nitrogen atom, an oxygen atom, and a sulfur atom, as defined above. Specific examples may include azetidinylcarbonyl, pyrrolidinylcarbonyl, piperidinylcarbonyl, piperazinylcarbonyl, pyrrolylcarbonyl, imidazolylcarbonyl, imidazolinylcarbonyl, pyrazolylcarbonyl, pyrazolinylcarbonyl, oxazolinylcarbonyl, morpholinylcarbonyl, thiomorpholinylcarbonyl, pyridinylcarbonyl, pyrazinylcarbonyl, pyrimidinylcarbonyl, pyridazinylcarbonyl, hexamethyleneiminocarbonyl, furylcarbonyl, tetrahydrofurylcarbonyl, thienylcarbonyl, tetrahydrothienylcarbonyl, dioxacyclopentylcarbonyl, isobenzofuranylcarbonyl, chromenylcarbonyl, indolizinylcarbonyl, indolylcarbonyl, isoindolylcarbonyl, indazolylcarbonyl, purylcarbonyl, quinolizinylcarbonyl, isoquinolinylcarbonyl, quinolinylcarbonyl, phthalazinylcarbonyl, naphthyridinylcarbonyl, quinoxalinylcarbonyl, quinazolinylcarbonyl, cinnolinylcarbonyl, pteridinylcarbonyl, isochromanylcarbonyl, chromanylcarbonyl, quinuclidinylcarbonyl, oxacycloheptylcarbonyl, dioxacycloheptylcarbonyl, thiacycloheptylcarbonyl, diazacycloheptylcarbonyl, oxacyclooctylcarbonyl, dioxacyclooctylcarbonyl, azacyclooctylcarbonyl, diazacyclooctylcarbonyl, azaoxacyclooctylcarbonyl, thiacyclooctylcarbonyl, dithiacyclooctylcarbonyl, thiaoxacyclooctylcarbonyl, azathiacyclooctylcarbonyl, oxacyclononylcarbonyl, dioxacyclononylcarbonyl, trioxacyclononylcarbonyl, azacyclononylcarbonyl, azaoxacyclononylcarbonyl, triazacyclononylcarbonyl, thiacyclononylcarbonyl, dithiacyclononylcarbonyl, azadithiacyclononylcarbonyl, oxacyclodecanylcarbonyl, dioxacyclodecanylcarbonyl, trioxacyclodecanylcarbonyl, azacyclodecanylcarbonyl, diazacyclodecanylcarbonyl, azaoxacyclodecanylcarbonyl, azadioxacyclodecanylcarbonyl, diazaoxacyclodecanylcarbonyl, thiacyclodecanylcarbonyl, dithiacyclodecanylcarbonyl, trithiacyclodecanylcarbonyl, azathiacyclodecanylcarbonyl, diazathiacyclodecanylcarbonyl, oxacycloundecanylcarbonyl, dioxacycloundecanylcarbonyl, trioxacycloundecanylcarbonyl, azacycloundecanylcarbonyl, diazacycloundecanylcarbonyl, triazacycloundecanylcarbonyl, thiacycloundecanylcarbonyl, dithiacycloundecanylcarbonyl, trithiacycloundecanylcarbonyl, azaoxacycloundecanylcarbonyl, azathiacycloundecanylcarbonyl, azadioxacycloundecanylcarbonyl, diazaoxacycloundecanylcarbonyl, azathiacycloundecanylcarbonyl, diazathiacycloundecanylcarbonyl, azadithiacycloundecanylcarbonyl, oxacyclododecanylcarbonyl, dioxacyclododecanylcarbonyl, trioxacyclododecanylcarbonyl, tetraoxacyclododecanylcarbonyl, azacyclododecanylcarbonyl, diazacyclododecanylcarbonyl, triazacyclododecanylcarbonyl, tetraazacyclododecanylcarbonyl, thiacyclododecanylcarbonyl, dithiacyclododecanylcarbonyl,

trithiacyclododecanylcarbonyl, tetrathiacyclododecanylcarbonyl, azaoxacyclcdodecanylcarbonyl, azathiacyclododecanylcarbonyl, diazaoxacyclododecanylcarbonyl, azadioxacyclododecanylcarbonyl, azatrioxacyclododecanylcarbonyl, azadithiacyclododecanylcarbonyl, diazadithiacyclododecanylcarbonyl, and azatrithiacyclododecanylcarbonyl.

[0058] In addition, uronic acid residues (groups obtained by conversion of a carboxy group to a carbonyl group) derived from monosaccharides capable of adopting a cyclic structure, such as alluronic acid, altruronic acid, glucuronic acid, mannuronic acid, guluronic acid, iduronic acid, galacturonic acid, or taluronic acid, are also included.

[0059] Moreover, a pyrrolidin-2-ylcarbonyl group derived from proline that is an α-amino acid is also included.

[0060] R^{32}, R^{33}, R^{34}, R^{35}, R^{37}, R^{38}, R^{71}, R^{72}, R^{84}, and R^{85} are the same as those, which have already been defined above. Preferably, each of R^{32}, R^{33}, R^{34}, and R^{35} is independently selected from a hydrogen atom, a $C_{1\text{-}8}$ alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a $C_{1\text{-}6}$ alkoxy group, an aryl group, an amino group, a $C_{1\text{-}6}$ alkylamino group, and a di($C_{1\text{-}6}$ alkyl)amino group), $-S(O)_{n4}R^{83}$(wherein n4 and R^{83} are the same as those defined above), a $C_{1\text{-}6}$ alkylcarbonyl group (wherein the $C_{1\text{-}6}$ alkylcarbonyl group may be substituted with one or more substituents selected from an amino group, a $C_{1\text{-}6}$ alkylamino group, a di($C_{1\text{-}6}$ alkyl)amino group, and an aryl group), a $C_{1\text{-}6}$ alkylaminocarbonyl group, a $C_{1\text{-}6}$ alkoxycarbonyl group, an aryl group, and a heteroaryl group; or

preferably, R^{32} and R^{33}, and R^{34} and R^{35}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclyl group containing at least one nitrogen atom (wherein the heterocyclyl group may be substituted with one or more substituents selected from a hydroxyl group, a $C_{1\text{-}8}$ alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a $C_{1\text{-}8}$ alkoxy group, and an aryl group), a $C_{1\text{-}8}$ alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a hydroxyl group, a $C_{1\text{-}8}$ alkoxy group, and an aryl group), an aryl group, and a hetero aryl group).

[0061] Furthermore, preferably, each of R^{32} and R^{33} is independently selected from a hydrogen atom, a $C_{1\text{-}8}$ alkyl group, and a $C_{1\text{-}6}$ alkylcarbonyl group, or R^{32} and R^{33}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclyl group containing at least one nitrogen atom (wherein the heterocyclyl group may be substituted with a hydroxyl group or a $C_{1\text{-}8}$ alkyl group (wherein the alkyl group may be substituted with a substituent selected from a hydroxyl group and a $C_{1\text{-}8}$ alkoxy group)).

[0062] Still further, preferably, R^{34} and R^{35}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclyl group containing at least one nitrogen atom.

[0063] Preferably, each of R^{71} and R^{72} is independently selected from a hydrogen atom, a $C_{1\text{-}8}$ alkyl group (wherein the $C_{1\text{-}8}$ alkyl group is substituted with $-(OCH_2CH_2)_m$-OH or 1 to 5 hydroxyl groups), and a $C_{1\text{-}6}$ alkoxycarbonyl group.

[0064] In the present invention, the term "$-S(O)_{n1}R^{14}$" is used to mean $-SR^{14}$, $-SOR^{14}$, or $-SO_2R^{14}$. For example, such $-S(O)_{n1}R^{14}$ includes $-S(O)_{n1}$ ($C_{1\text{-}6}$ alkyl group), $-S(O)_{n1}$ (aryl group), and $-S(O)_{n1}$ (heteroaryl group). Specific examples of "$-S(O)_{n1}R^{14}$" may include methylthio, ethylthio, n-propylthio, isopropylthio, trifluoromethylthio, benzylthio, 4-methylphenylthio, phenylthio, methylsulfinyl, ethylsulfinyl, n-propylsulfinyl, isopropylsulfinyl, trifluoromethylsulfinyl, benzylsulfinyl, 4-methylphenylsulfinyl, phenylsulfinyl,

[0065] methylsulfonyl, ethylsulfonyl, n-propylsulfonyl, isopropylsulfonyl, trifluoromethylsulfonyl, benzylsulfonyl, 4-methylphenylsulfonyl, and phenylsulfonyl.

[0066] In the present invention, the term "$C_{1\text{-}6}$ alkylenedioxy group" is a divalent group "-O-($C_{1\text{-}6}$ alkylene)-O-," which contains a linear or branched alkylene group containing 1 to 6 carbon atoms and binds to a carbon atom adjacent thereto. Examples of such a $C_{1\text{-}6}$ alkylenedioxy group may include methylenedioxy, ethylenedioxy, methylmethylenedioxy, and dimethylmethylenedioxy.

[0067] In the present invention, the term "oxo group" is used to mean "=O." For example, a methylene group substituted with an oxo group forms a carbonyl group "-C(=O)-."

[0068] In the present invention, the term "thioxo group" is used to mean "=S." For example, a methylene group substituted with an thioxo group forms a thiocarbonyl group "-C(=S)-."

[0069] In the present invention, when any given group is substituted with one or more substituents, such substituents may be either identical to or different from one another. The number of such substituents ranges from 1 to the maximum number, which is substitutable on a chemical structure. The number of substituents is, for example, between 1 and 7, typically between 1 and 5, and particularly between 1 and 3.

[0070] n1 is preferably 0 or 2, and each of n3 and n4 is preferably 2.

[0071] Preferred examples of R^{83} of $-S(O)_{n4}R^{83}$, which is a specific example of R^{32} and R^{33} in $-NR^{32}R^{33}$, may include a $C_{1\text{-}8}$ alkyl group (wherein the $C_{1\text{-}8}$ alkyl group may be substituted with one or more hydroxyl groups), a $C_{2\text{-}8}$ alkenyl group, a $C_{3\text{-}6}$ cycloalkyl group, and an aryl group.

[0072] Preferably, each of R^{41} and R^{42} is independently selected from a hydrogen atom and an aryl $C_{1\text{-}6}$ alkyl group. Among others, it is preferable to select from among a hydrogen atom and a benzyl group. In addition, R^{41} and R^{42} are preferably identical to each other.

[0073] The present invention includes a pharmacologically acceptable salt of the compound represented by the formula (1). These salts are produced by allowing the compound to come into contact with an acid or base, which can be used

in production of a pharmaceutical. Examples of such a salt may include: hydrochloride, hydrobromide, hydroiodide, sulfate, sulfonate, methanesulfonate, toluenesulfonate, phosphate, phosphonate; carboxylates such as formate, acetate, oxalate, maleate, citrate, malate, succinate, malonate, benzoate, salicylate, fluoroacetate or trifluoroacetate, or alkali metal salts such as a sodium salt or a potassium salt; and alkali earth metal salts such as a magnesium salt or a calcium salt; and ammonium salts such as an ammonium salt, an alkylammonium salt, a dialkylammonium salt, a trialkylammonium salt, or a tetraalkylammonium salt.

[0074] The "prodrug" as disclosed herein means a derivative of the compound represented by the formula (1), which is converted to the compound represented by the formula (1) or a pharmaceutically acceptable salt thereof, as a result of enzymatic or nonenzymatic decomposition under physiological conditions. When such a prodrug is administered to a patient, it may be inactive. However, such a prodrug is converted to the compound of the formula (1) and exists in the form of the compound of the formula (1) *in vivo*. The compound represented by the formula (1) of the present invention may include those, which act as prodrugs by themselves. In order to impart preferred properties as a pharmaceutical, the "prodrug" includes compounds obtained by further converting the compound to derivatives.

[0075] Examples of the "prodrug" may include:

1) a compound wherein a hydroxyl group is protected by a protecting group, when the compound of the formula (1) has the hydroxyl group in the molecule thereof;
2) a compound wherein a -NH- group or amino group is protected by a protecting group, when the compound of the formula (1) has the -NH group or amino group in the molecule thereof; and 3) a compound wherein a carboxy group is converted to an ester group or an amino group, which may be substituted, when the compound of the formula (1) has the carboxy group in the molecule thereof.

[0076] Examples of such a protecting group for a hydroxyl group in the prodrug of the present invention, such as R^{31} or R^{53}, may include $-PO(OR^{41})OR^{42}$, a C_{1-6} alkylcarbonyl group, a C_{2-7} alkenylcarbonyl group, a C_{3-8} cycloalkylcarbonyl group (wherein the C_{1-6} alkylcarbonyl group, C_{2-7} alkenylcarbonyl group, and a C_{3-8} cycloalkylcarbonyl group may be substituted with one or more substituents selected from a hydroxyl group, $-NR^{37}R^{38}$, an aryl group, which may be substituted with a hydroxyl group, a heteroaryl group, a mercapto group, a C_{1-6} alkylthio group, a guanidyl group, a carboxy group, a C_{1-6} alkoxycarbonyl group, a C_{1-6} alkylcarbonyloxy group, an aryl C_{1-6} alkoxy group, an aminocarbonyl group, a C_{1-6} alkylaminocarbonyl group, and a di(C_{1-6} alkyl)aminocarbonyl group (wherein the C_{1-6} alkylaminocarbonyl group and di(C_{1-6} alkyl)aminocarbonyl group may be substituted with one or more substituents selected from an amino group, a C_{1-6} alkylamino group, and a di(C_{1-6} alkyl)amino group), and $-(OCHR^{74}CH_2)_1-OR^{73}$ (wherein 1, R^{73}, and R^{74} are the same as those defined above)), an arylcarbonyl group, a heteroarylcarbonyl group, a 4- to 12-membered heterocyclyl carbonyl group (wherein the arylcarbonyl group, heteroarylcarbonyl group, and heterocyclyl carbonyl group may be substituted with one or more substituents selected from a hydroxyl group, a carboxy group, a C_{1-6} alkoxycarbonyl group, and a C_{1-6} alkylcarbonyl group (wherein the C_{1-6} alkoxycarbonyl group and C_{1-6} alkylcarbonyl group may be substituted with one or more substituents selected from a hydroxyl group, $-NR^{84}R^{85}$, and a carboxy group)), a C_{1-6} alkoxycarbonyl group (wherein the C_{1-6} alkoxycarbonyl group may be substituted with a 4- to 12-membered heterocyclyl carbonyl group), $-CONR^{71}R^{72}$, and $-CO(OCHR^{76}CH_2)_k-OR^{75}$ (wherein k, R^{75}, and R^{76} are the same as those defined above).

[0077] Herein, each of R^{37}, R^{38}, R^{84}, and R^{85} is independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, $(OCH_2CH_2)_m-OH$ (wherein m is the same as that defined above), a C_{1-6} alkoxycarbonyl group, an aryl group, an amino group, a C_{1-6} alkylamino group, and a di(C_{1-6} alkyl)amino group), $-S(O)_{n4}R^{83}$ (wherein n4 represents an integer of 1 or 2), a C_{1-6} alkylcarbonyl group (wherein the C_{1-6} alkylcarbonyl group may be substituted with one or more substituents selected from an amino group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, an aminocarbonyl group, an aryl group, which may be substituted with a hydroxyl group, a heteroaryl group, a hydroxyl group, a mercapto group, a C_{1-6} alkylthio group, a guanidyl group, and a carboxy group), a C_{1-6} alkylaminocarbonyl group, a C_{1-6} alkoxycarbonyl group, a 4- to 7-membered heterocyclyl carbonyl group, an aryl group, and a heteroaryl group; or

R^{37} and R^{38}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclyl group (wherein the heterocyclyl group may be substituted with a hydroxyl group, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with a hydroxyl group, a C_{1-8} alkoxy group, or an aryl group), a C_{1-8} alkoxy group (wherein the alkoxy group may be substituted with a hydroxyl group, a C_{1-8} alkoxy group, or an aryl group), an aryl group, or a heteroaryl group);

R^{83} is selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-6} alkoxy group, an aryl C_{1-6} alkoxy group, an aryl group, and a heteroaryl group), a C_{2-8} alkenyl group, a C_{3-6} cycloalkyl group, an aryl group, or a heteroaryl group.

[0078] A protecting group for a hydroxyl group is preferably selected from a C_{1-6} alkylcarbonyl group (wherein the C_{1-6} alkylcarbonyl group may be substituted with 1 to 3 substituents selected from a hydroxyl group, $-NR^{37}R^{38}$, a carboxy

group, a C_{1-6} alkylcarbonyloxy group, a C_{1-6} alkylaminocarbonyl group, which may be substituted with an amino group, and -$(OCHR^{74}CH_2)_1$-OR^{73} (wherein 1, R^{73}, R^{74} are the same as those defined above)), an arylcarbonyl group, which may be substituted with a carboxy group, a heteroarylcarbonyl group, a C_{1-6} alkoxycarbonyl group, which may be substituted with a 4- to 12-heterocyclyl group, -$CONR^{71}R^{72}$ (wherein R^{71} and R^{72} are the same as those defined above), and -$CO(OCHR^{76}CH_2)_k$-OR^{75} (wherein k, R^{75}, and R^{76} are the same as those defined above).

[0079] Preferably, each of R^{37} and R^{38} is independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the C_{1-8} alkyl group may be substituted with an amino group), and an α-amino acid-derived group (a group obtained by conversion of a carboxy group to a carbonyl group).

[0080] In addition, such a protected hydroxyl group may be esters of naturally occurring type amino acids (namely, asparagine, aspartic acid, alanine, arginine, isoleucine, glycine, glutamine, glutamic acid, cysteine, serine, tyrosine, tryptophan, threonine, valine, histidine, phenylalanine, proline, methionine, lysine, and leucine), esters of non-naturally occurring type amino acids, dipeptide esters, tripeptide esters, or tetrapeptide esters.

[0081] Examples of a protecting group for an -NH- group or amino group may include a C_{1-6} alkylcarbonyl group, an arylcarbonyl group, a heteroarylcarbonyl group, a C_{1-6} alkoxycarbonyl group, a C_{1-6} alkylaminocarbonyl group, a di(C_{1-6} alkyl)aminocarbonyl group, an aryl C_{1-6} alkyl group, a heteroaryl C_{1-6} alkyl group, an (aryl C_{1-6} alkyl)aminocarbonyl group, -$P(=O)(OH)_2$, -$CH_2OP(=O)(OH)_2$, a C_{1-6} alkyl group, and a C_{1-6} alkylsufonyl group. In addition, such a protected -NH-group or amino group may be amides of naturally occurring type or non-naturally occurring type amino acids, dipeptide amides, tripeptide esters, and tetrapeptide amides.

[0082] Moreover, an amino group is protected by a protecting group, so that it may form a saturated or unsaturated heterocyclyl group, such as a phthalic acid imide group, a succinic acid imide group, a glutaric acid imide group, or a 1-pyrrolyl group.

[0083] When a carboxy group is converted to an ester group or an amide group, which may be substituted, examples of such an ester group may include a C_{1-6} alkyl ester, an aryl ester, a heteroaryl ester, an aryl C_{1-6} alkyl ester, a heteroaryl C_{1-6} alkyl ester, a C_{1-6} alkoxy C_{1-6} alkyl ester, an aryloxy C_{1-6} alkyl ester, an aryl C_{1-6} alkoxy C_{1-6} alkyl ester, a hydroxy C_{1-6} alkyl ester, an amino C_{1-6} alkyl ester, a C_{1-6} alkylamino C_{1-6} alkyl ester, and a di(C_{1-6} alkyl)amino C_{1-6} alkyl ester. Preferred ester groups include a methyl ester group, an ethyl ester group, a 2-hydroxyethyl ester group, and a 2-(dimethylamino)ethyl ester group.

[0084] The amide group is an amide group represented by -$CONR^{71}R^{72}$, for example. Each of R^{71} and R^{72} may be independently selected from a hydrogen atom, a C_{1-6} alkyl group, an aryl group, a heteroaryl group, an aryl C_{1-6} alkyl group, a heteroaryl C_{1-6} alkyl group, a C_{1-6} alkoxy C_{1-6} alkyl group, an aryloxy C_{1-6} alkyl group, an aryl C_{1-6} alkoxy C_{1-6} alkyl group, a hydroxyl C_{1-6} alkyl group, an amino C_{1-6} alkyl group, a C_{1-6} alkylamino C_{1-6} alkyl group, a di(C_{1-6} alkyl) amino C_{1-6} alkyl group, a hydroxyl group, and an alkoxy group. Each of R^{71} and R^{72} is preferably a hydrogen atom, a methyl group, an ethyl group, a 2-hydroxyethyl group, or a 2-(dimethylamino)ethyl group.

[0085] Specific examples of -$(OCHR^{74}CH_2)_1$-OR^{73} (wherein 1, R^{73}, and R^{74} are the same as those defined as above) may include -$(OCH_2CH_2)_2$-OH, -OCH_2CH_2-OCH_3, -$(OCH_2CH_2)_2$-OCH_3, -$(OCH_2CH_2)_5$-OCH_3, $(OCH_2CH_2)_3$-OCH_3, -$(OCH_2CH_2)_4$-OCH_3, -$(OCH_2CH_2)_6$-OCH_3, -$(OCH_2CH_2)_3$-OH, -$(OCH_2CH_2)_5$-OH, -$(OCH_2CH_2)_6$-OH, -$(OCH_2CH_2)_{10}$-OCH_3, -$(OCH_2CH_2)_7$-OCH_3, -$(OCH_2CH_2)_8$-OCH_3, -$(OCH_2CH_2)_9$-OCH_3, -$(OCH_2CH_2)_{11}$ -OCH_3, -$(OCH_2CH_2)_{12}$ -OCH_3, -$(OCH_2CH_2)_7$ -OH, -$(OCH_2CH_2)_8$-OH, -$(OCH_2CH_2)_9$-OH, -$(OCH_2CH_2)_{10}$-OH, -$(OCH_2CH_2)_{11}$-OH, and -$(OCH_2CH_2)_{12}$-OH. In addition, an acetyl group is particularly preferable as a C_{1-6} alkylcarbonyl group in a C_{1-6} alkylcarbonyl group, which is substituted with -$(OCHR^{74}CH_2)_1$-OR^{73}.

[0086] Specific examples of -$CO(OCHR^{76}CH_2)_k$-OR^{75} (wherein k, R^{75}, and R^{76} are the same as those defined above) may include -$CO(OCH_2CH_2)_2$-OH, -$CO(OCH_2CH_2)_3$-OH, -$CO(OCH_2CH_2)_4$-OH, -$CO(OCH_2CH_2)_6$-OH, -$CO(OCH_2CH_2)_7$-OH, -$CO(OCH_2CH_2)_8$-OH, -$CO(OCH_2CH_2)_9$-OH, -$COOCH_2CH_2$-$OCH(CH_2OH)CH_2OH$, -$CO(OCH_2CH_2)_2$-$OCH(CH_2OH)CH_2OH$,- $CO(OCH_2CH_2)_{10}$-OH, -$CO(OCH_2CH_2)_{10}$-OCH_3, -$COOCH(CH_2(OCH_2CH_2)_2$-$OH)CH_2(OCH_2CH_2)_2$-OH, -$COOCH(CH_2OCH(CH_2(OCH_2CH_2)_2$-$OH)CH_2(OCH_2CH_2)_2$-$OH)CH_2(OCH_2CH_2)_2$-OH, -$COOCH(CH_2OCH_2CH_2$-$OH)CH_2OCH_2CH_2OH$, -$COOCH(CH_2(OCH_2CH_2)_3$-$OH)CH_2(OCH_2CH_2)_3$-OH, -$COOCH_2CH_2$-$OCH_3$, -$CO(OCH_2CH_2)_2$-$OCH_3$, -$CO(OCH_2CH_2)_3$-$OCH_3$, -$CO(OCH_2CH_2)_4$-$OCH_3$, -$CO(OCH_2CH_2)_5$-$OCH_3$, -$CO(OCH_2CH_2)_6$-$OCH_3$, $CO(OCH_2CH_2)_7$-OCH_3, -$CO(OCH_2CH_2)_8$-OCH_3, -$CO(OCH_2CH_2)_9$-OCH_3, -$CO(OCH_2CH_2)_{11}$-OCH_3, -$CO(OCH_2CH_2)_{12}$-OCH_3, -$CO(OCH_2CH_2)_{11}$-OH, and -$CO(OCH_2CH_2)_{12}$-OH,.

[0087] Each of k, 1, i, m, and j represents an integer from 1 to 20. Each of them is preferably an integer from 1 to 12 in view of commercial availability of corresponding reagent.

[0088] Preferably, each of R^{51} and R^{52} is independently selected from a hydrogen atom, a methyl group, and a vinyl group. In addition, R^{51} and R^{52} are preferably identical to each other. Moreover, particularly preferably, R^{51} and R^{52} are simultaneously a hydrogen atom and a methyl group.

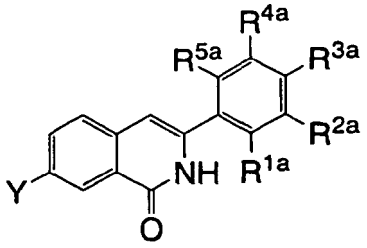
[0089] R^{53} is preferably selected from a hydrogen atom, a C_{1-6} alkylcarbonyl group (wherein the C_{1-6} alkylcarbonyl group may be substituted with 1 to 3 substituents selected from a hydroxyl group, -$(OCH_2CH_2)_1$-OR^{73} (wherein R^{73} and 1 are the same as those defined above)), and -$CO(OCHR^{76}CH_2)_k$-OR^{75} (wherein R^{75}, R^{76}, and k are the same as those defined above).

[0090] Preferred examples of a C_{1-6} alkylcarbonyl group in R^{53}, which may be substituted with a hydroxyl group, may include a 2,3-dihydroxypropionyl group, a 2,2-bis(hydroxymethyl)propionyl group, and a 3-hydroxy-2,2-bis(hydroxymethyl)propionyl group.

[0091] Preferred examples of a propionyl group, which is substituted with 1 or 2 hydroxyl groups, in a propionyloxy group substituted with 1 or 2 hydroxyl groups, may include a 2,3-dihydroxypropionyl group and a 2,2-bis(hydroxymethyl) propionyl group.

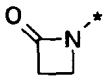
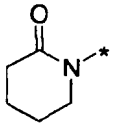
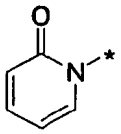
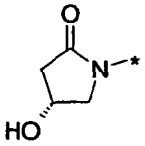
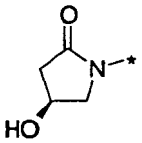
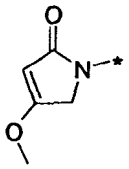
[0092] Specific examples of the present invention include the compound represented by the following formula and compounds shown in the following table:

[Formula 7]

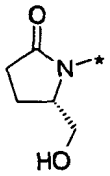
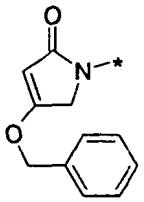
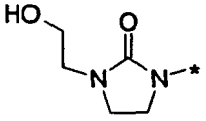
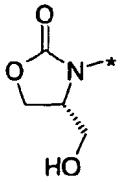


[0093] However, the present invention is not limited to such examples.

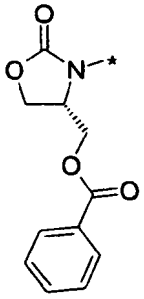
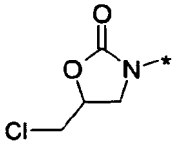
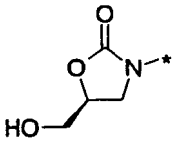
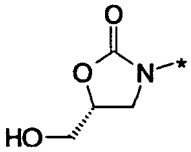
[Table 1-1]

Compound No.	R^{1a}	R^{2a}	R^{3a}	R^{4a}	R^{5a}	Y	Example
1	CF_3	H	H	H	H		Example 1-1
2	CF_3	H	H	H	H		Example 1-2
3	CF_3	H	H	H	H		Example 1-3
4	CF_3	H	H	H	H		Example 1-4
5	CF_3	H	H	H	H		Example 1-5
6	CF_3	H	H	H	H		Example 1-6

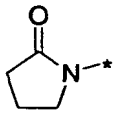
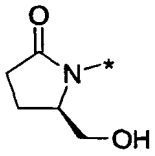
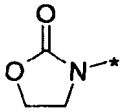
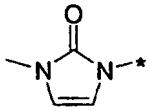
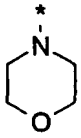
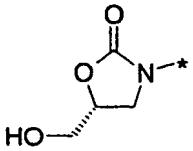
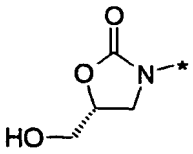
(continued)

Compound No.	R^{1a}	R^{2a}	R^{3a}	R^{4a}	R^{5a}	Y	Example
7	CF_3	H	H	H	H		Example 1-7
8	CF_3	H	H	H	H		Example 1-8
9	CF_3	H	H	H	H		Example 1-9
10	CF_3	H	H	H	H		Example 1-10

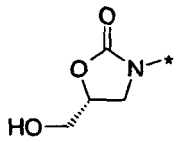
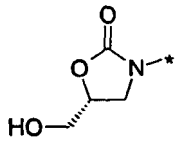
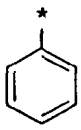
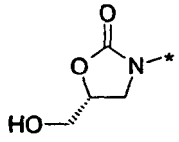
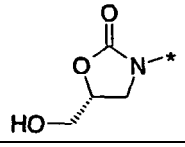
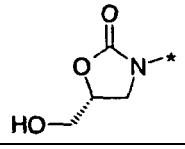
[Table 1-2]

11	CF_3	H	H	H	H		Example 1-11
12	CF_3	H	H	H	H		Example 1-12
13	CF_3	H	H	H	H		Example 1-13
14	CF_3	H	H	H	H		Example 1-14

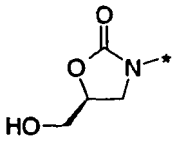
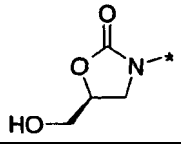
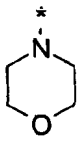
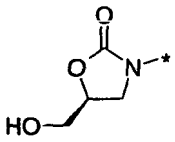
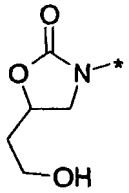
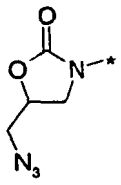
(continued)

15	CF_3	H	H	H	H		Example 1-15
16	CF_3	H	H	H	H		Example 1-16
17	CF_3	H	H	H	H		Example 1-17
18	CF_3	H	H	H	H		Example 1-18
19		H	H	H	H		Example 1-19
20	OMe	H	H	H	H		Example 1-20

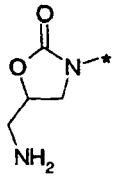
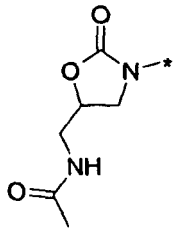
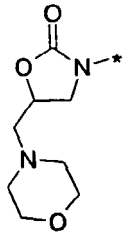
[Table 1-3]

21	Me	H	H	H	H		Example 1-21
22	OCF_3	H	H	H	H		Example 1-22
23		H	H	H	H		Example 1-23
24	Et	H	H	H	H		Example 1-24
25	OMe	H	H	H	OMe		Example 1-25

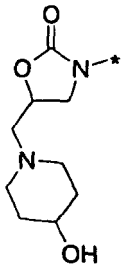
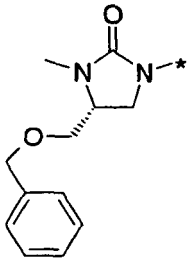
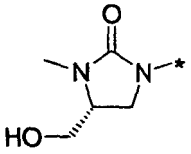
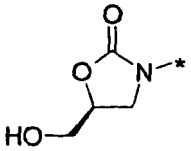
(continued)

26	F	H	H	H	H		Example 1-26
27	OCF_3	H	H	H	H		Example 1-27
28		H	H	H	H		Example 1-28
29	CF_3	H	H	H	H		Example 1-29
30	CF_3	H	H	H	H		Example 1-30

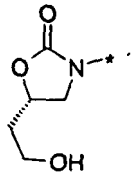
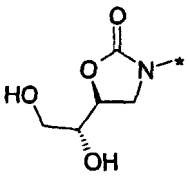
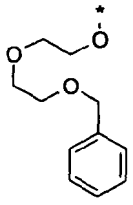
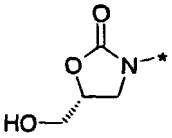
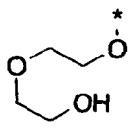
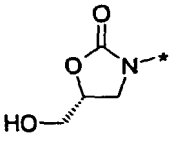
[Table 1-4]

31	CF_3	H	H	H	H		Example 1-31
32	CF_3	H	H	H	H		Example 1-32
33	CF_3	H	H	H	H		Example 1-33

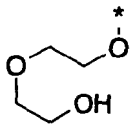
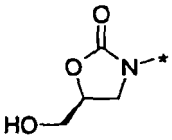
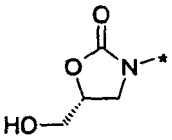
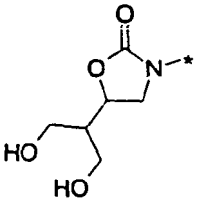
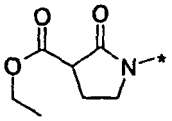
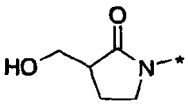
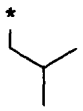
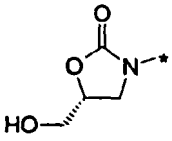
(continued)

34	CF_3	H	H	H	H		Example 1-34
35	CF_3	H	H	H	H		Example 1-35
36	CF_3	H	H	H	H		Example 1-36
37	Et	H	H	H	H		Example 1-37

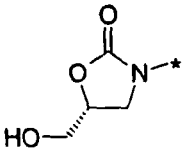
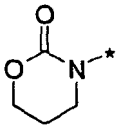
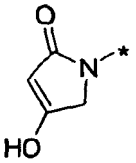
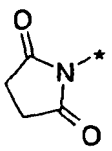
[Table 1-5]

38	CF_3	H	H	H	H		Example 1-38
39	CF_3	H	H	H	H		Example 1-39
40		H	H	H	H		Example 1-40
41		H	H	H	H		Example 1-41

(continued)

42		H	H	H	H		Example 1-42
43	CF_3	H	H	H	CF_3		Example 1-43
44	CF_3	H	H	H	H		Example 1-44
45	CF_3	H	H	H	H		Example 1-45
46	CF_3	H	H	H	H		Example 1-46
47		H	H	H	H		Example 1-47

[Table 1-6]

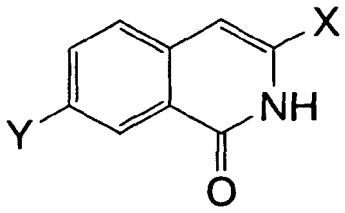
48		H	H	H	H		Example 1-48
49	CF_3	H	H	H	H		Example 1-49
50	CF_3	H	H	H	H		Example 1-50
51	CF_3	H	H	H	H		Example 1-51

[0094] Hereinafter, compound names corresponding to the aforementioned compound numbers are shown.

(1) : 7-(2-oxoazetidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(2): 7-(2-oxopiperidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(3): 7-(2-oxo-2H-pyridin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(4): 7-((R)-4-hydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(5): 7-((S)-4-hydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(6): 7-(4-methoxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(7): 7-((S)-2-hydroxymethyl-5-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(8): 7-(4-benzyloxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(9): 7-[3-(2-hydroxyethyl)-2-oxoimidazolidin-1-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(10): 7-((R)-4-hydroxymethyl-2-oxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(11): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-4-ylmethyl benzoate,
(12): 7-(5-chloromethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(13): 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(14): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(15): 7-(2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(16): 7-((R)-2-hydroxymethyl-5-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(17): 7-(2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(18): 7-(3-methyl-2-oxo-2,3-dihydroimidazol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(19): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one,
(20): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methoxyphenyl)-2H-isoquinolin-1-one,
(21): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-o-tolyl-2H-isoquinolin-1-one,
(22): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethoxyphenyl)-2H-isoquinolin-1-one,
(23): 3-biphenyl-2-yl-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
(24): 3-(2-ethylphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
(25): 3-(2,6-dimethoxyphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
(26): 3-(2-fluorophenyl)-7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
(27): 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethoxyphenyl)-2H-isoquinolin-1-one,
(28): 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one,
(29): 7-[5-(2-hydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(30): 7-(5-azidomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(31): 7-(5-aminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(32): N-{2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}acetamide,
(33): 7-(5-morpholin-4-ylmethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(34): 7-[5-(4-hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(35): 7-((R)-4-benzyloxymethyl-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(36): 7-((R)-4-hydroxymethyl-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(37): 3-(2-ethylphenyl)-7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
(38): 7-[(S)-5-(2-hydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(39): 7-[(S)-5-((R)-1,2-dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(40): 3-{2-[2-(2-benzyloxyethoxy)ethoxy]phenyl}-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
(41): 3-{2-[2-(2-hydroxyethoxy)ethoxy]phenyl}-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
(42): 3-{2-[2-(2-hydroxyethoxy)ethoxy]phenyl}-7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
(43): 3-(2,6-bistrifluoromethylphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
(44): 7-[5-(2-hydroxy-1-hydroxymethylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(45): ethyl 2-oxo-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]pyrrolidine-3-carboxylate,
(46): 7-(3-hydroxymethyl-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(47): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-isobutylphenyl)-2H-isoquinolin-1-one,
(48): 3-(2-allylphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
(49): 7-(2-oxo-[1,3]oxazinan-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(50): 7-(4-hydroxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one, and
(51): 1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]pyrrolidine-2,5-dione.

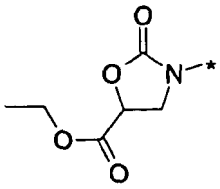
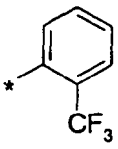
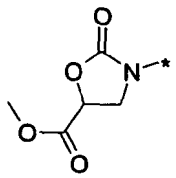
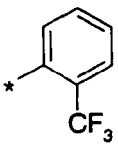
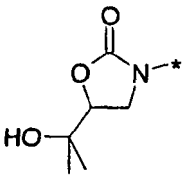
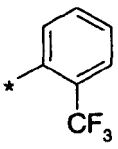
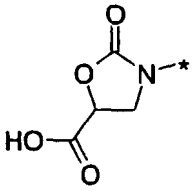
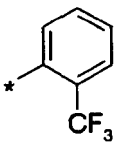
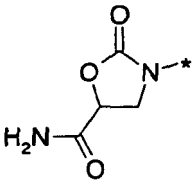
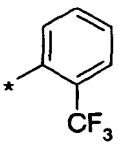
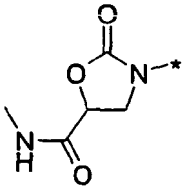
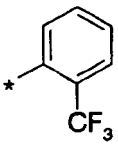
[0095] Specific examples of the present invention include the compound represented by the following formula and compounds shown in the following table:

[Formula 8]

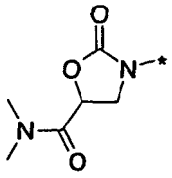
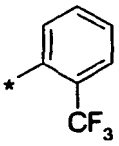
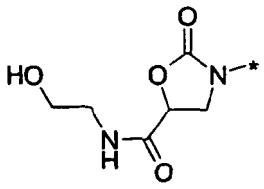
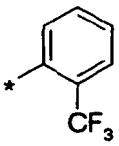


[0096] However, the present invention is not limited to such examples.

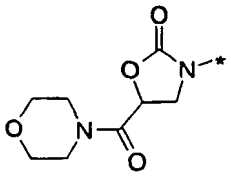
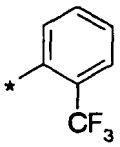
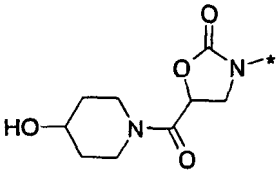
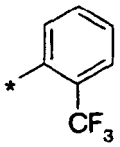
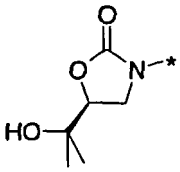
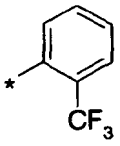
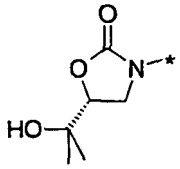
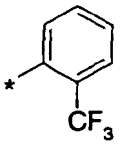
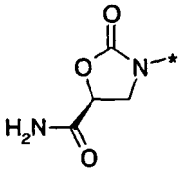
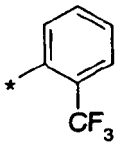
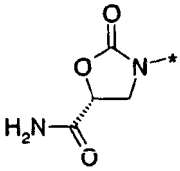
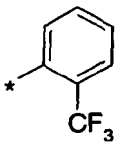
[Table 2-1]

Compound No.	Y	X	Example
A1			Example 2-1
A2			Example 2-2
A3			Example 2-3
A4			Example 2-4
A5			Example 2-5
A6			Example 2-6

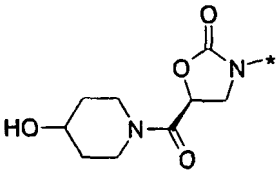
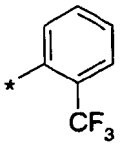
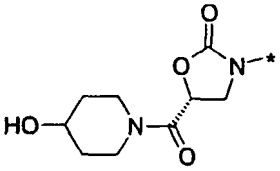
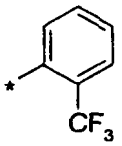
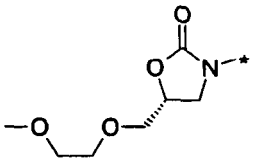
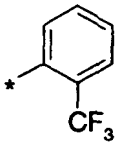
(continued)

Compound No.	Y	X	Example
A7			Example 2-7
A8			Example 2-8

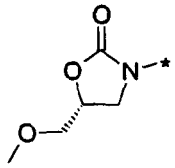
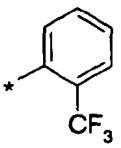
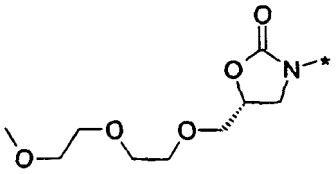
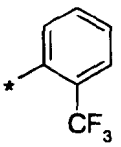
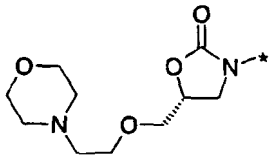
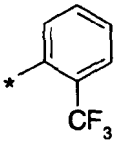
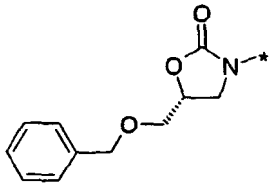
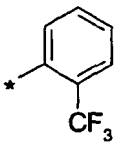
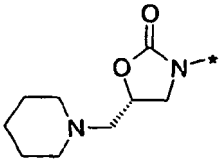
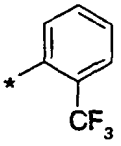
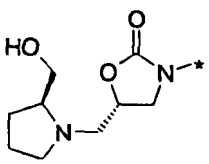
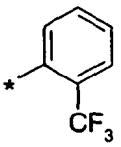
[Table 2-2]

A9			Example 2-9
A10			Example 2-10
A11			Example 2-11
A12			Example 2-12
A13			Example 2-13
A14			Example 2-14

(continued)

A15			Example 2-15
A16			Example 2-16
A17			Example 2-17

[Table 2-3]

A18			Example 2-18
A19			Example 2-19
A20			Example 2-20
A21			Example 2-21
A22			Example 2-22
A23			Example 2-23

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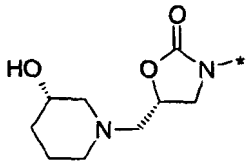
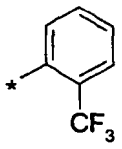
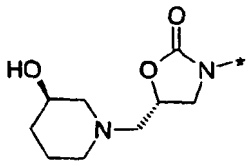
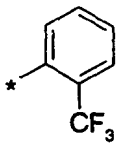
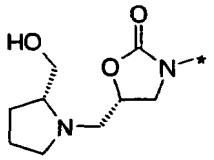
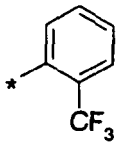
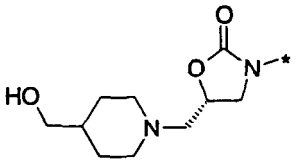
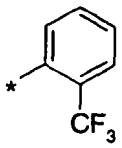
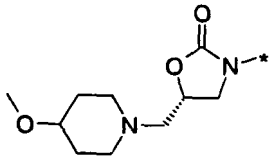
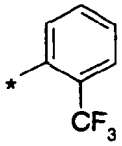
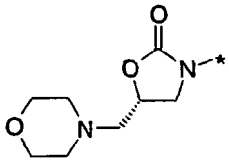
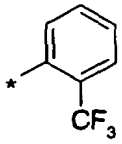
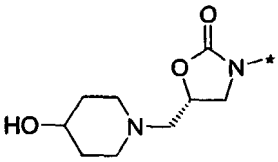
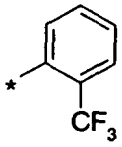
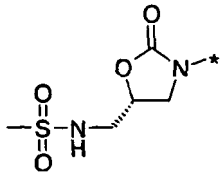
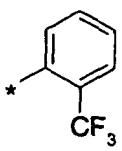
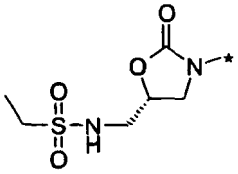
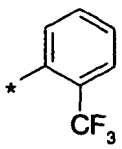
A24			Example 2-24
A25			Example 2-25
A26			Example 2-26

[Table 2-4]

A27			Example 2-27
A28			Example 2-28
A29			Example 2-29
A30			Example 2-30
A31			Example 2-31
A32			Example 2-32

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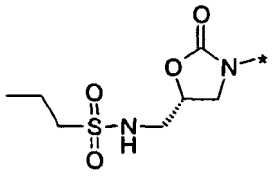
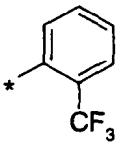
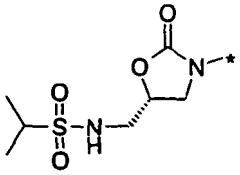
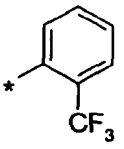
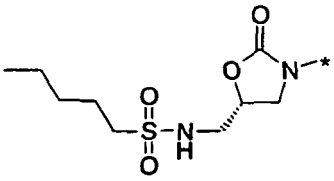
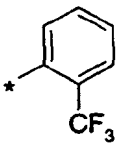
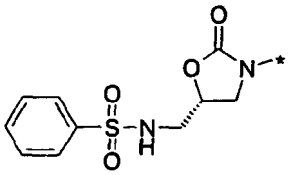
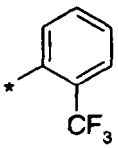
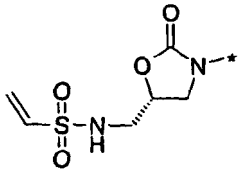
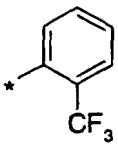
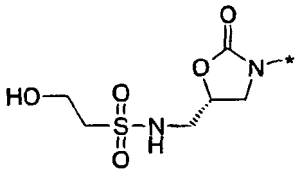
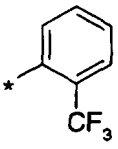
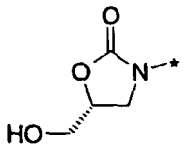
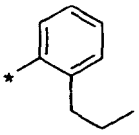
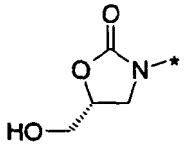
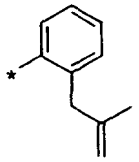
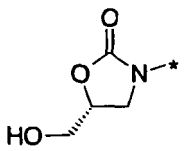
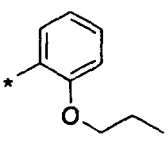
A33			Example 2-33
A34			Example 2-34
A35			Example 2-35

[Table 2-5]

A36			Example 2-36
A37			Example 2-37
A38			Example 2-38
A39			Example 2-39
A40			Example 2-40
A41			Example 2-41

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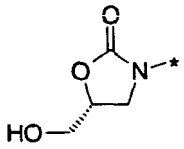
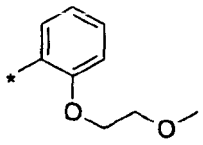
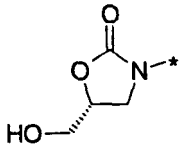
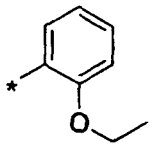
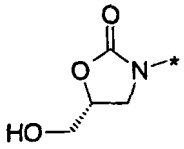
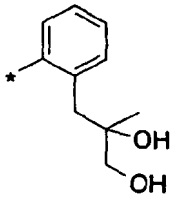
A42			Example 2-42
A43			Example 2-43
A44			Example 2-44

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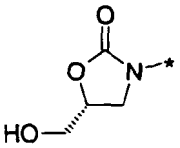
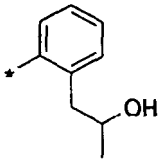
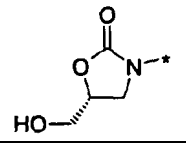
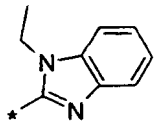
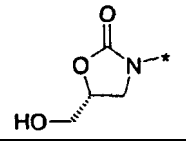
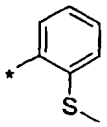
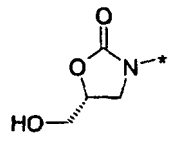
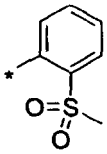
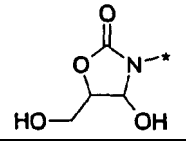
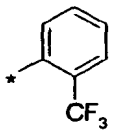
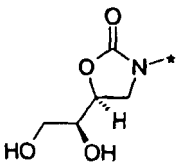
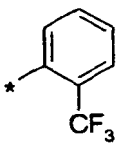
A45			Example 2-45
A46			Example 2-46
A47			Example 2-47
A48			Example 2-48
A49			Example 2-49
A50			Example 2-50

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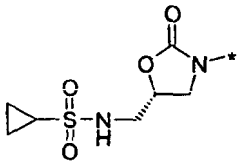
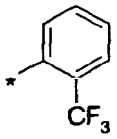
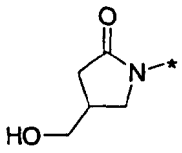
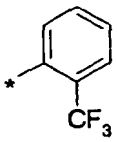
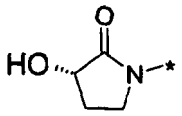
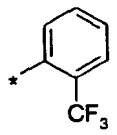
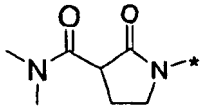
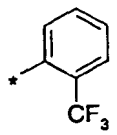
A51			Example 2-51
A52			Example 2-52
A53			Example 2-53
A54			Example 2-54

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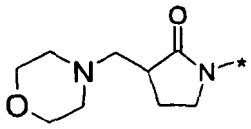
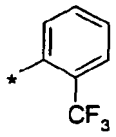
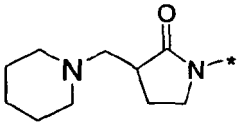
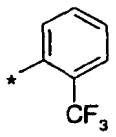
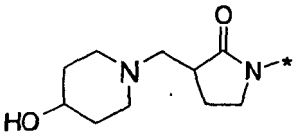
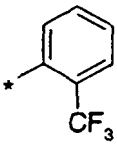
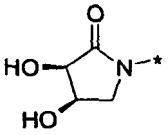
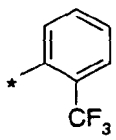
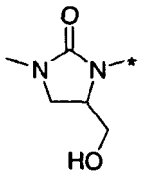
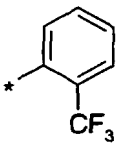
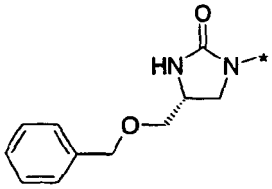
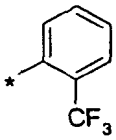
A55			Example 2-55
A56			Example 2-56
A57			Example 2-57
A58			Example 2-58
A59			Example 2-59
A60			Example 2-60

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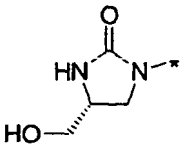
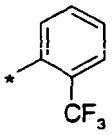
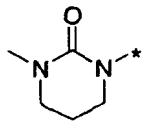
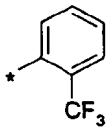
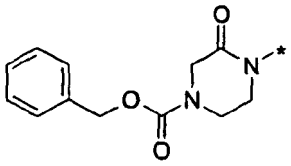
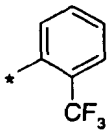
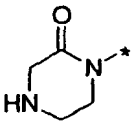
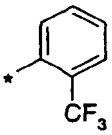
A61			Example 2-61
A62			Example 2-62
A63			Example 2-63
A64			Example 2-64

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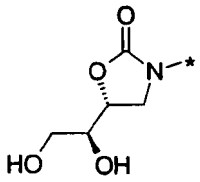
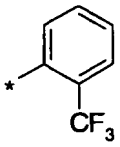
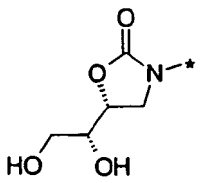
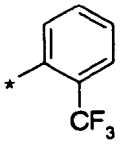
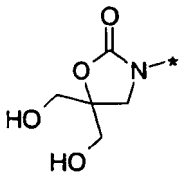
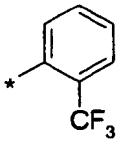
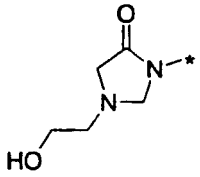
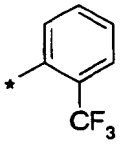
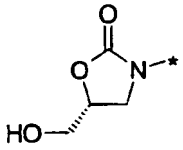
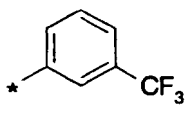
A65			Example 2-65
A66			Example 2-66
A67			Example 2-67
A68			Example 2-68
A69			Example 2-69

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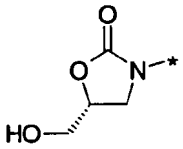
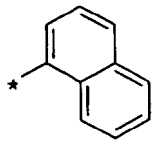
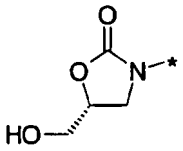
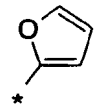
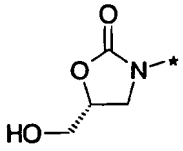
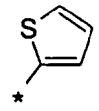
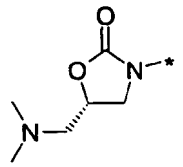
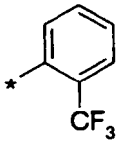
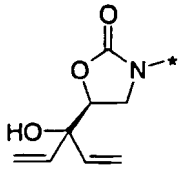
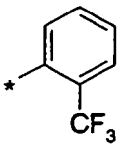
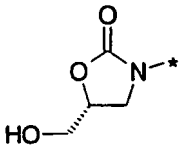
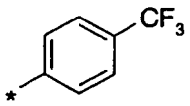
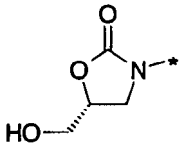
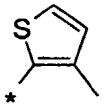
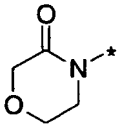
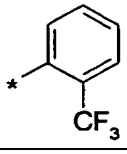
A70			Example 2-70
A71			Example 2-71
A72			Example 2-72
A73			Example 2-73

[Table 2-9]

A74			Example 2-74
A75			Example 2-75
A76			Example 2-76
A77			Example 2-77

[0097] Hereinafter, compound names corresponding to the aforementioned compound numbers are shown.

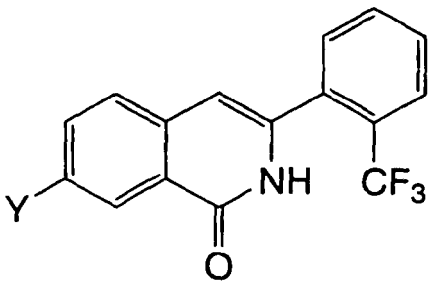
(A1): ethyl 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylate,
(A2): methyl 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylate,
(A3): 7-[5-(1-hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A4): 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid,
(A5): 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid amide,
(A6): 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid methylamide,

(A7): 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid dimethylamide,
(A8): 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid (2-hydroxyethyl)amide,
(A9): 7-[5-(morpholine-4-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A10): 7-[5-(4-hydroxypiperidine-1-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A11): 7-[(S)-5-(1-hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A12): 7-[(R)-5-(1-hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A13): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid amide,
(A14): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid amide,
(A15): 7-[(S)-5-(4-hydroxypiperidine-1-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A16): 7-[(R)-5-(4-hydroxypiperidine-1-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A17): 7-[(R)-5-(2-methoxyethoxymethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A18): 7-((R)-5-methoxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A19): 7-{(R)-5-[2-(2-methoxyethoxy)ethoxymethyl]-2-oxooxazolidin-3-yl}-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A20): 7-[(R)-5-(2-morpholin-4-ylethoxymethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A21): 7-((R)-5-benzyloxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-l-one,
(A22): 7-((S)-2-oxo-5-piperidin-1-ylmethyloxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A23): 7-[(S)-5-((S)-2-hydroxymethylpyrrolidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A24): 7-[(S)-5-((S)-3-hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A25): 7-[(S)-5-((R)-3-hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A26): 7-[(S)-5-((R)-2-hydroxymethylpyrrolidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A27): 7-[(S)-5-(4-hydroxymethylpiperidin-1-ylmethyl)-2-oxooxazolidin-,3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A28): 7-[(S)-5-(4-methoxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A29): 7-((S)-5-morpholin-4-ylmethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A30): 7-[(S)-(4-hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A31): N-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}methanesulfonamide,
(A32): ethanesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide,
(A33): propane-1-sulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide,
(A34): propane-2-sulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide,
(A35): pentane-1-sulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide,
(A36): N-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}benzenesulfonamide,
(A37): ethenesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide,
(A38): 2-hydroxyethanesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide,
(A39): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-propylphenyl)-2H-isoquinolin-1-one,
(A40): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-methylallyl)phenyl]-2H-isoquinolin-1-one,

(A41): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-propoxyphenyl)-2H-isoquinolin-1-one,
(A42): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-methoxyethoxy)phenyl]-2H-isoquinolin-1-one,
(A43): 3-(2-ethoxyphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
(A44): 3-[2-(2,3-dihydroxy-2-methylpropyl)phenyl]-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one, (A45): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-hydroxypropyl)phenyl]-2H-isoquinolin-1-one,
(A46): 3-(1-ethyl-1H-benzimidazol-2-yl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
(A47): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methylsulfanylphenyl)-2H-isoquinolin-1-one,
(A48): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methanesulfonylphenyl)-2H-isoquinolin-1-one,
(A49): 7-(4-hydroxy-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A50): 7-[(S)-5-((S)-1,2-dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A51): cyclopropanesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide,
(A52): 7-(4-hydroxymethyl-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A53): 7-((S)-3-hydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A54): 2-oxo-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]pyrrolidine-3-carboxylic acid dimethylamide,
(A55): 7-(3-morpholin-4-ylmethyl-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A56): 7-(2-oxo-3-piperidin-1-ylmethylpyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A57): 7-[3-(4-hydroxypiperidin-1-ylmethyl)-2-oxopyrrolidin-1-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A58): 7-((3R,4R)-3,4-dihydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A59): 7-(5-hydroxymethyl)-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A60): 7-((R)-4-benzyloxymethyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A61) : 7-((R)-4-hydroxymethyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A62): 7-(3-methyl-2-oxotetrahydropyrimidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A63): benzyl 3-oxo-4-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]piperazine-1-carboxylate,
(A64): 7-(2-oxopiperazin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A65): 7-[(R)-5-((S)-1,2-dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A66): 7-[(R)-5-((R)-1,2-dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A67): 7-(5,5-bishydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A68): 7-[3-(2-hydroxyethyl)-5-oxoimidazolidin-1-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A69): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(3-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A70): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-naphthalen-1-yl-2H-isoquinolin-1-one,
(A71): 3-furan-2-yl-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
(A72): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-thiophen-2-yl-2H-isoquinolin-1-one,
(A73): 7-((S)-5-dimethylaminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A74): 7-[(S)-5-(1-hydroxy-1-vinylallyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(A75): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(4-trifluoromethylphenyl)-2H-isoquinolin-1-one, and
(A76): 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(3-methylthiophen-2-yl)-2H-isoquinolin-1-one.
(A77): 7-(3-oxomorpholin-4-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one.

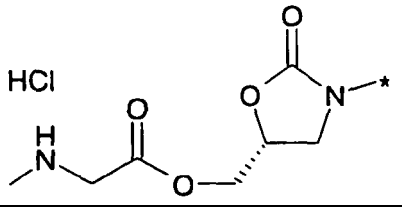
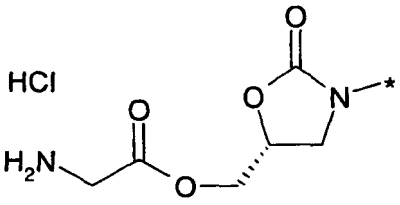
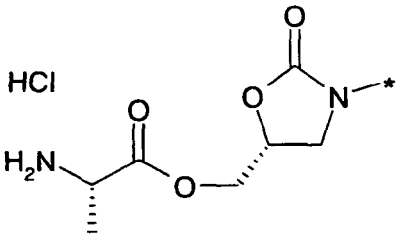
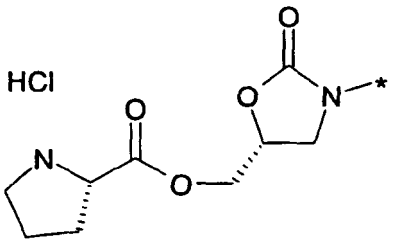
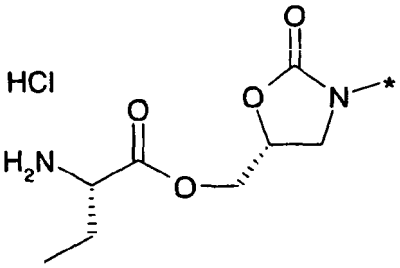
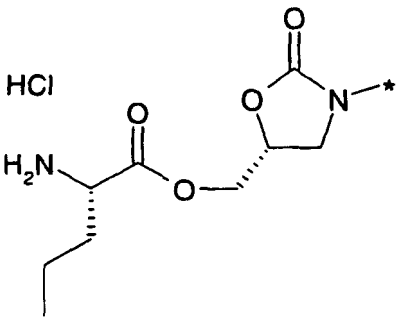
[0098] Moreover, specific examples of the present inveniton include the compound represented by the following formula and compounds shown in the following table:

[Formula 9]

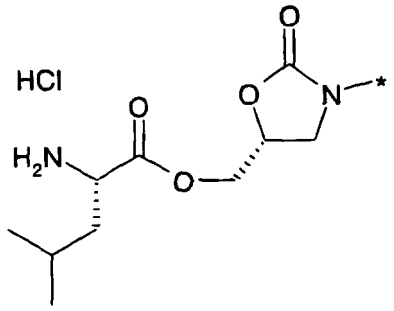
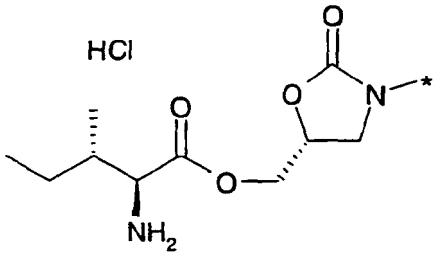
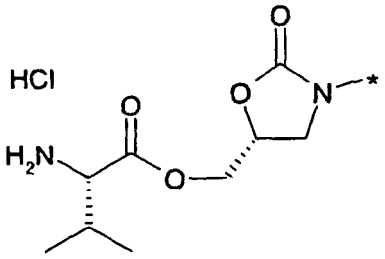
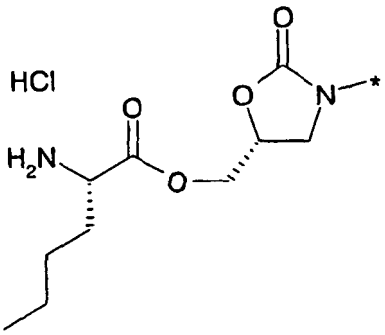
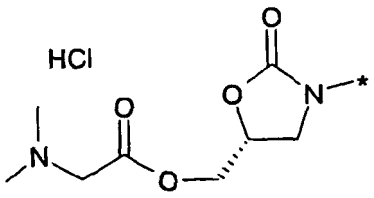
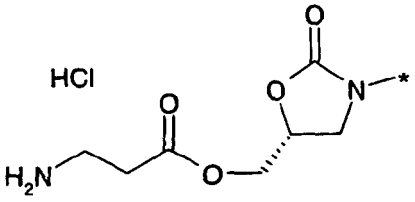


[0099] However, the present invention is not limited to such examples.

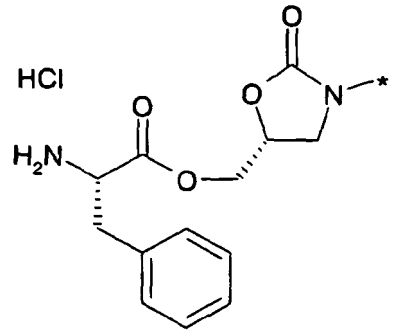
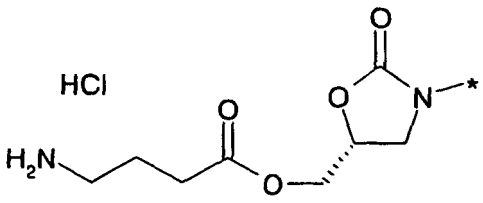
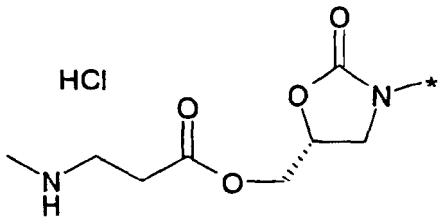
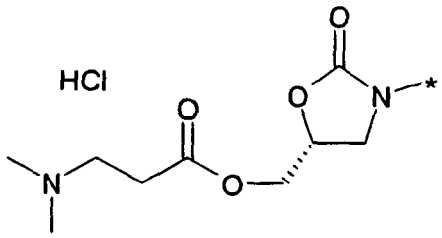
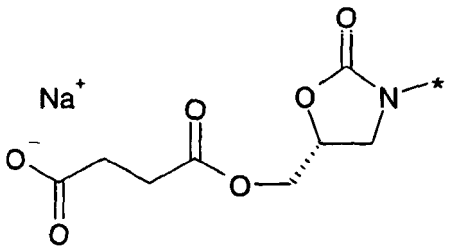
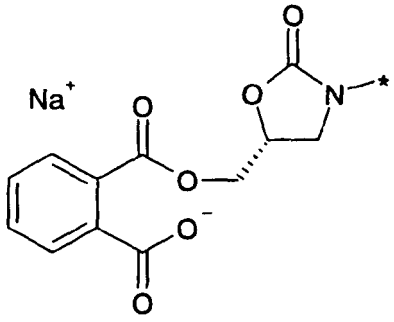
[Table 3-1]

Compound No.	Y	Example
B1		Example 3-1
B2		Example 3-2
B3		Example 3-3
B4		Example 3-4
B5		Example 3-5
B6		Example 3-6

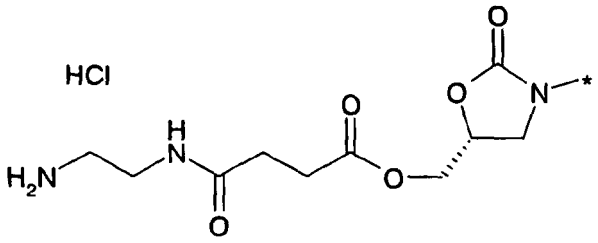
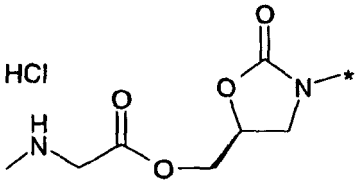
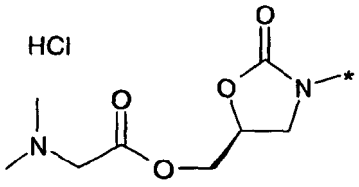
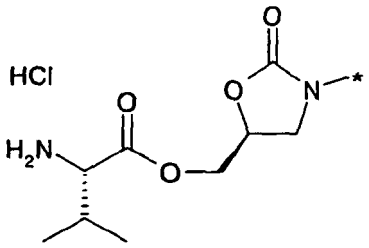
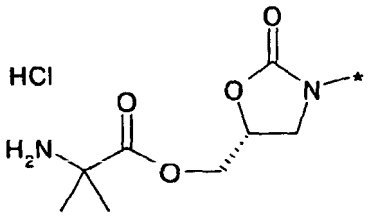
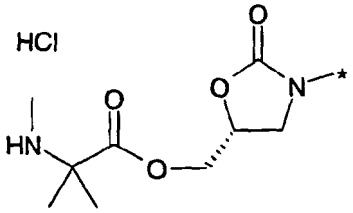
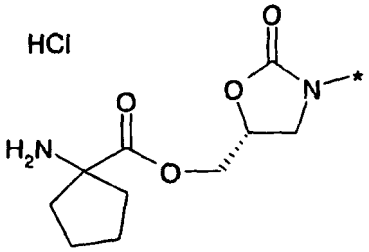
[Table 3-2]

B7		Example 3-7 .
B8		Example 3-8
B9		Example 3-9
B10		3-10 Example 3-10
B11		Example 3-11
B12		Example 3-12

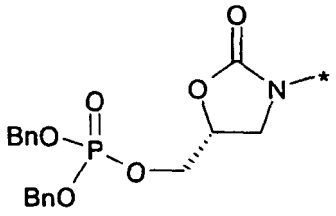
[Table 3-3]

B13		Example 3-13
B14		Example 3-14
B15		Example 3-15
B16		Example 3-16
B17		Example 3-17
B18		Example 3-18

[Table 3-4]

B19		Example 3-19
B20		Example 3-20
B21		Example 3-21
B22		Example 3-22
B23		Example 3-23
B24		Example 3-24
B25		Example 3-25

[Table 3-5]

B26		Example 3-26

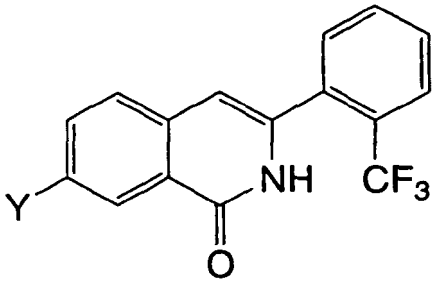
[0100] Hereinafter, compound names corresponding to the aforementioned compound numbers are shown.

(B1) : (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl methylaminoacetate hydrochloride,
(B2): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl aminoacetate hydrochloride,
(B3): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-aminopropionate hydrochloride,
(B4): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-pyrrolidine-2-carboxylate hydrochloride,
(B5): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-aminobutanoate hydrochloride,
(B6): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-aminopentanoate hydrochloride,
(B7): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-4-methyl-pentanoate hydrochloride,
(B8): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2S,3S)-2-amino-3-methylpentanoate hydrochloride,
(B9): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-3-methyl-butanoate hydrochloride,
(B10): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-aminohexanoate hydrochloride,
(B11): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl dimethylaminoacetate hydrochloride,
(B12): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-aminopropionate hydrochloride,
(B13): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-3-phenylpropionate hydrochloride,
(B14): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 4-aminobutanoate hydrochloride,
(B15): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-methylaminopropionate hydrochloride,
(B16): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-dimethylaminopropionate hydrochloride,
(B17): sodium 3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}propionate,
(B18): sodium 2-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}benzoate,
(B19): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 2-aminoethylsuccinamate hydrochloride,
(B20): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl methylaminoacetate hydrochloride,
(B21): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl dimethylaminoacetate hydrochloride,
(B22): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-3-methylbutyrate hydrochloride,
(B23) : (R)-2-oxo-3-[1-oxo-3-trifluoromethylphenyl]-1,2-dihydroisoquinolin-7-yl]-oxazolidin-5-ylmethyl 2-amino-2-methylpropionate hydrochloride,

(B24): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 2-methyl-2-(methylamino)propionate hydrochloride,
(B25): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 1-amino-cyclopentanecarboxylate hydrochloride, and
(B26): dibenzyl phosphoate (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]-oxazolidin-5-ylmethyl ester.

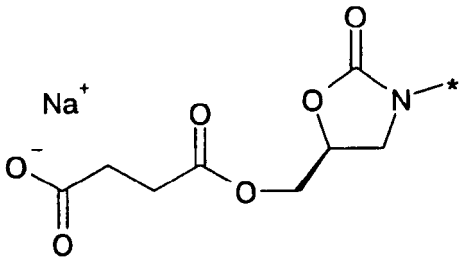
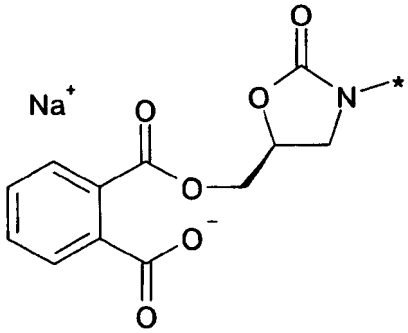
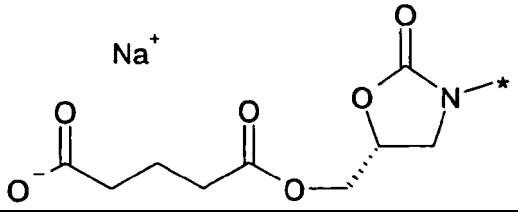
[0101] Furthermore, the present invention includes the compound represented by the following formula and compounds shown in the following table:

[Formula 10]

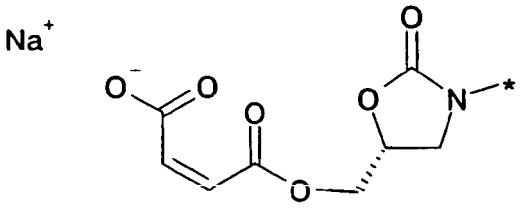
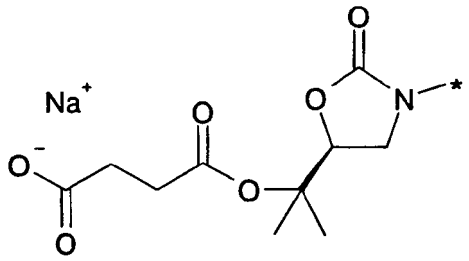


[0102] However, the present invention is not limited to such examples.

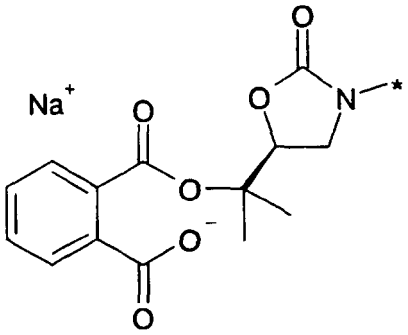
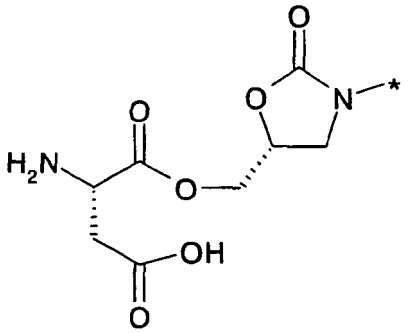
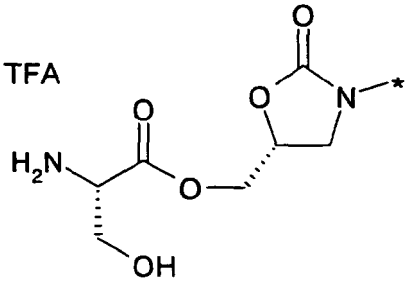
[Table 4-1]

Compound No.	Y	Example
C1		Example 4-1
C2		Example 4-2
C3		Example 4-3

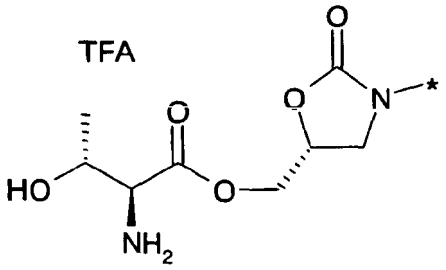
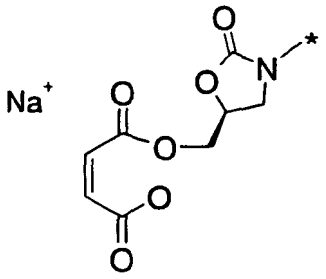
(continued)

Compound No.	Y	Example
C4		Example 4-4
C5		Example 4-5

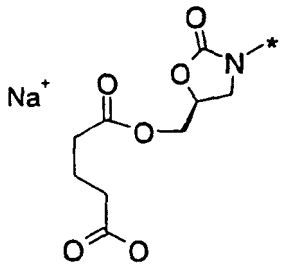
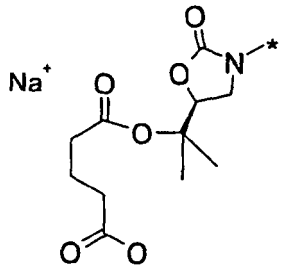
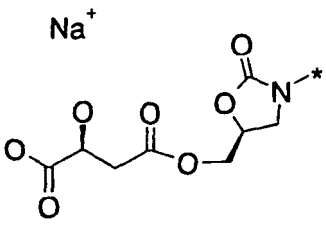
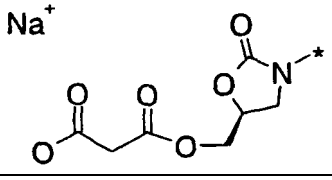
[Table 4-2]

C6		Example 4-6
C7		Example 4-7
C8		Example 4-8

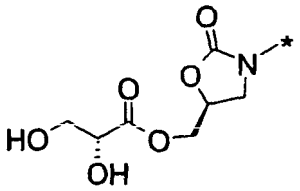
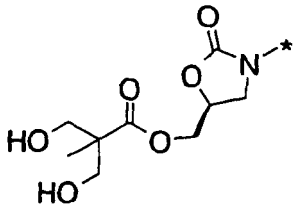
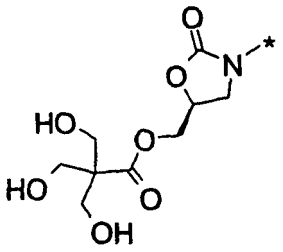
(continued)

C9		Example 4-9
C10		Example 4-10

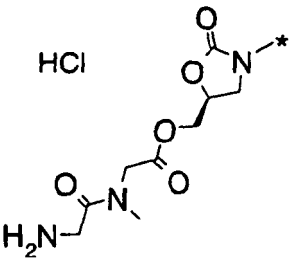
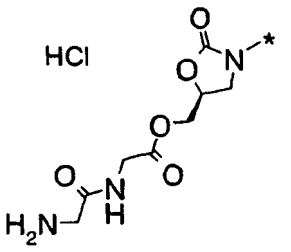
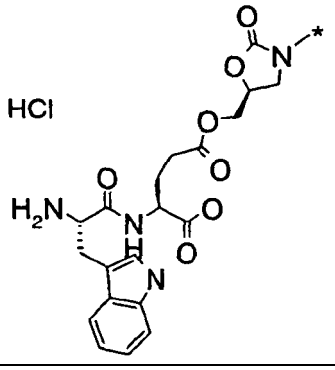
[Table 4-3]

C11		Example 4-11
C12		Example 4-12
C13		Example 4-13
C14		Example 4-14

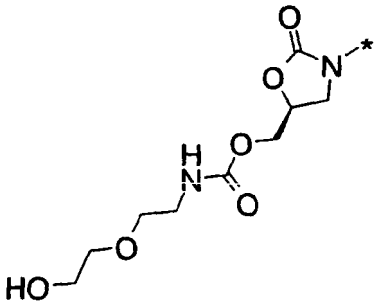
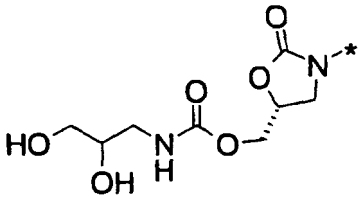
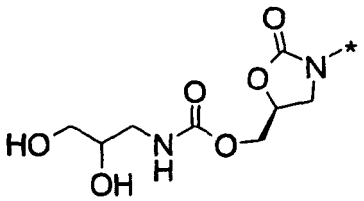
(continued)

C15		Example 4-15
C16		Example 4-16
C17		Example 4-17

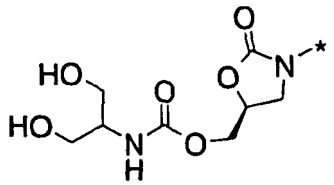
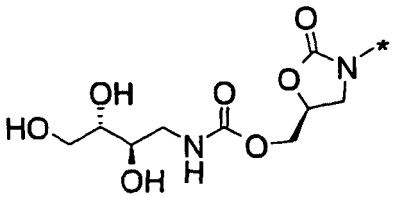
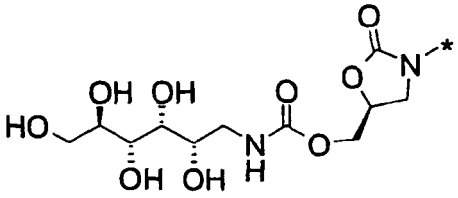
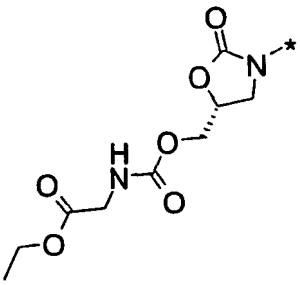
[Table 4-4]

C18		Example 4-18
C19		Example 4-19
C20		Example 4-20

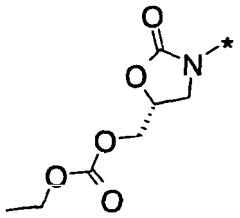
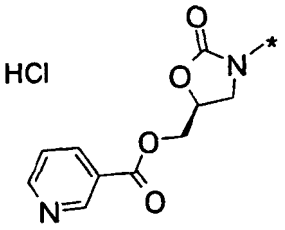
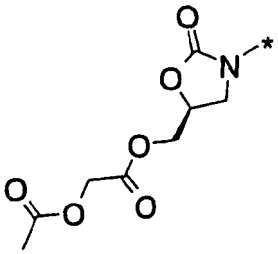
(continued)

C21		Example 4-21
C22		Example 4-22
C23		Example 4-23

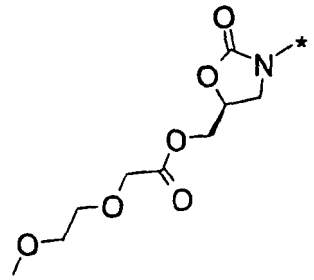
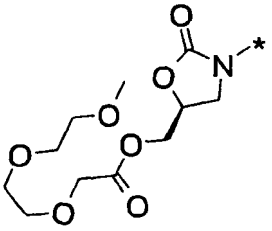
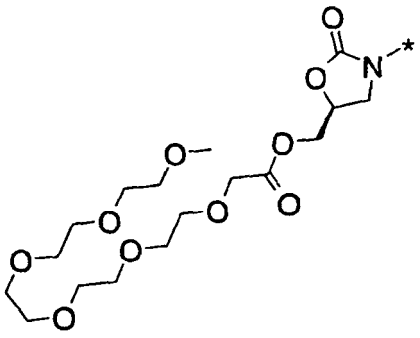
[Table 4-5]

C24		Example 4-24
C25		Example 4-25
C26		Example 4-26
C27		Example 4-27

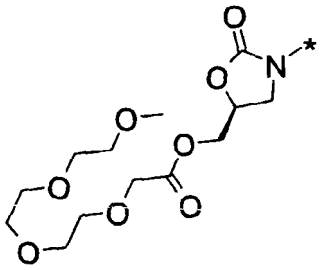
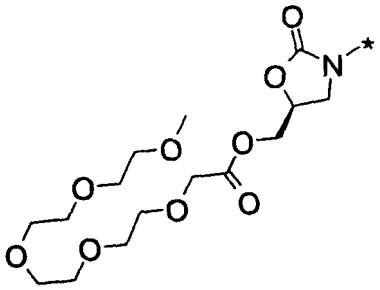
(continued)

C28		Example 4-28
C29		Example 4-29
C30		Example 4-30

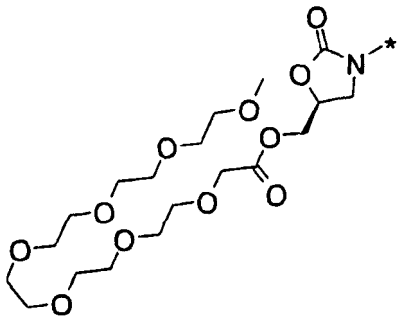
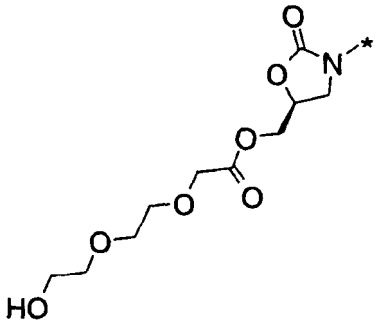
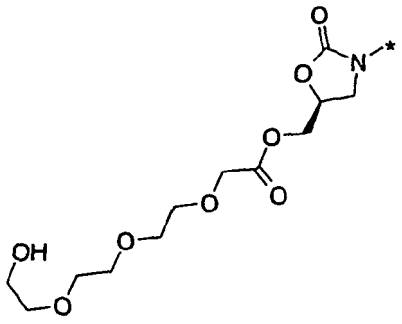
[Table 4-6]

C31		Example 4-31
C32		Example 4-32
C33		Example 4-33

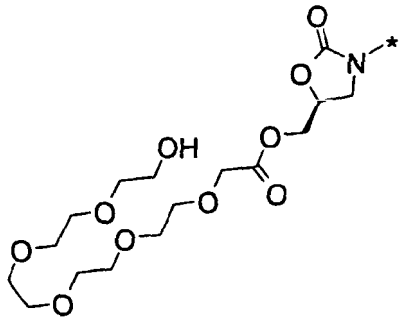
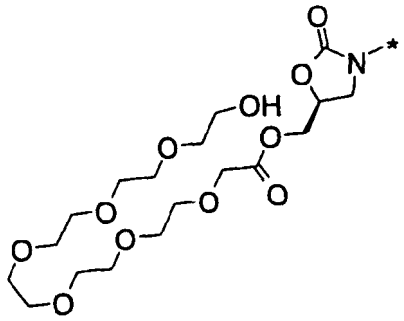
(continued)

C34		Example 4-34
C35		Example 4-35

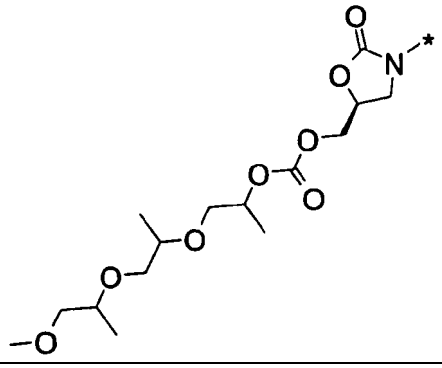
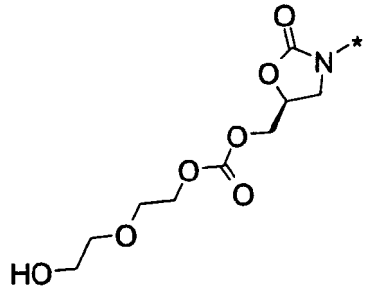
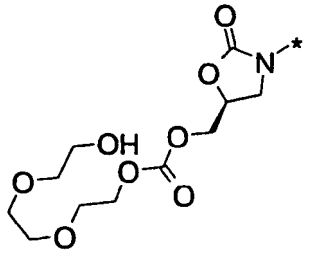
[Table 4-7]

C36		Example 4-36
C37		Example 4-37
C38		Example 4-38

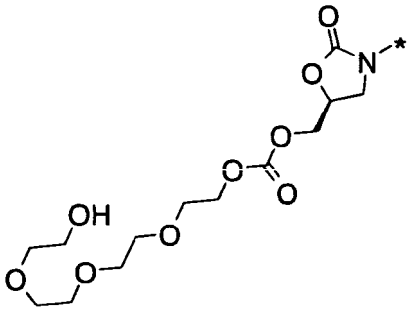
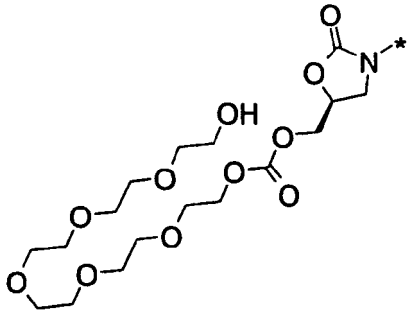
(continued)

C39		Example 4-39
C40		Example 4-40

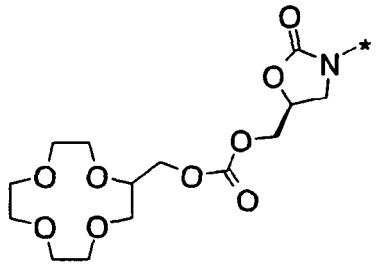
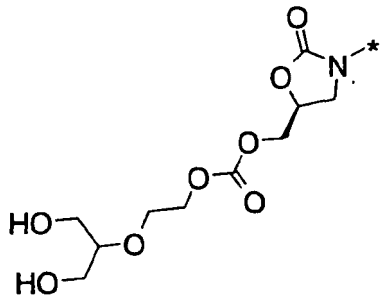
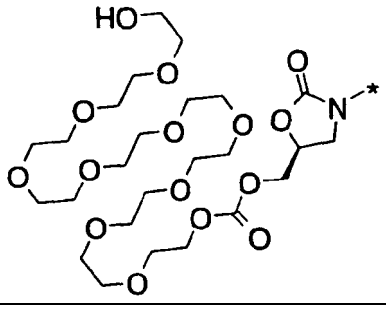
[Table 4-8]

C41		Example 4-41
C42		Example 4-42
C43		Example 4-43

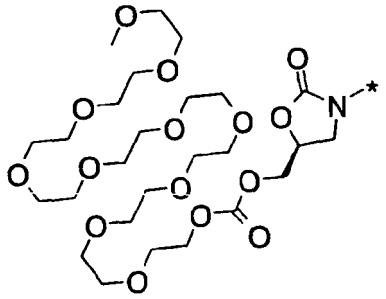
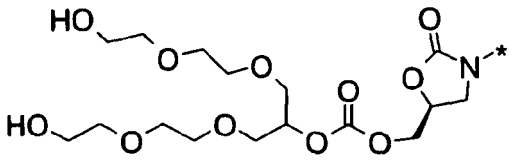
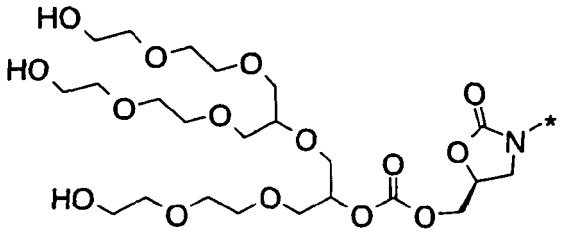
(continued)

C44		Example 4-44
C45		Example 4-45

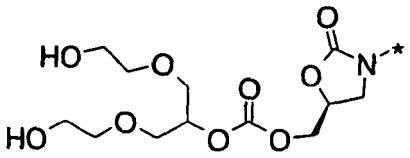
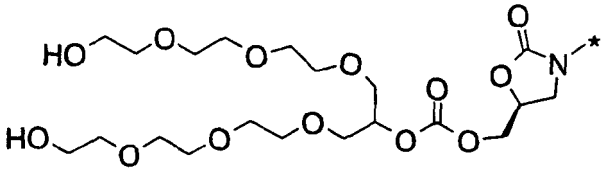
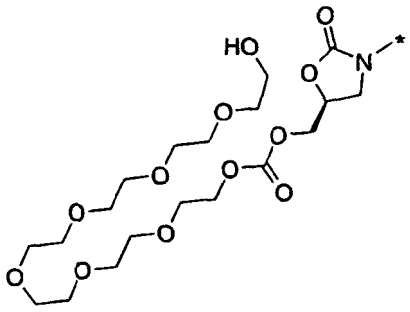
[Table 4-9]

C46		Example 4-46
C47		Example 4-47
C48		Example 4-48

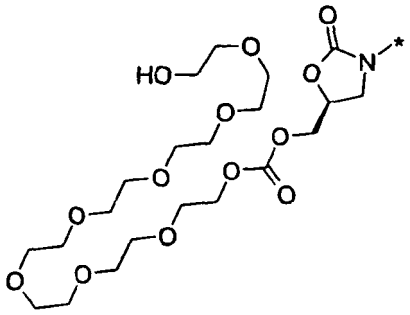
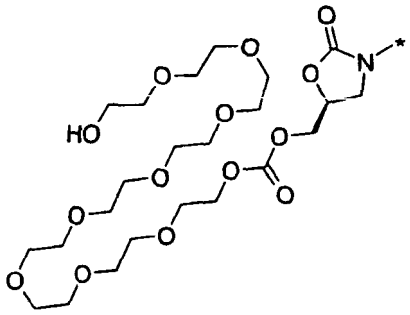
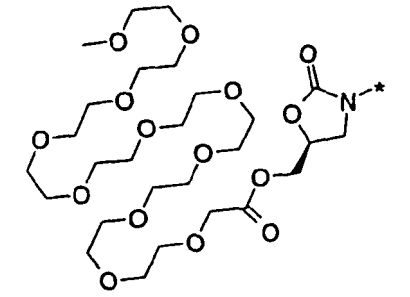
(continued)

C49		Example 4-49
C50		Example 4-50
C51		Example 4-51

[Table 4-10]

C53		Example 4-52
C54		Example 4-53
C55		Example 4-54

(continued)

C56		Example 4-55
C57		Example 4-56
C58		Example 4-57

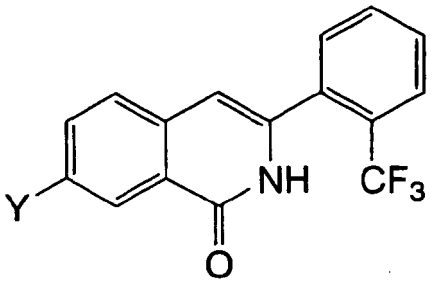
(C1) : sodium 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}propionate,
(C2): sodium 2-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}benzoate,
(C3): sodium 3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}butanoate,
(C4): sodium (Z)-3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}acrylate,
(C5): sodium 2-(1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylethoxycarbonyl}propionate,
(C6): sodium 2-(1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylethoxycarbonyl}benzoate,
(C7) : 1-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]-oxazolidin-5-ylmethyl} (S)-2-aminosuccinate,
(C8): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-3-hydroxypropionate trifluoroacetic acid,
(C9): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2S,3R)-2-amino-3-hydroxybutanoate trifluoroacetate,
(C10): sodium (Z)-3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}acrylate,
(C11): sodium 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}butanoate,
(C12): sodium 2-(1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylethoxycarbonyl}butanoate,

(C13): sodium 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}-(S)-2-hydroxypropionate,
(C14): sodium 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}ethanoate,
(C15): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (R)-2,3-dihydroxypropionate,
(C16): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-hydroxy-2-hydroxymethyl-2-methylpropionate,
(C17): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-hydroxy-2,2-bishydroxymethylpropionate,
(C18): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-aminoacetyl)methylaminoacetate hydrochloride,
(C19): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 2-aminoacetylaminoacetate hydrochloride,
(C20): 5-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl} (S)-2-[(S)-2-amino-3-(1H-indol-3-yl)-propionylamino]-pentanedioate,
(C21): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-hydroxyethoxy)ethyl]carbamate,
(C22): (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2,3-dihydroxypropyl)carbamate,
(C23): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2,3-dihydroxypropyl)carbamate,
(C24): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-hydroxy-1-hydroxymethylethyl)carbamate,
(C25): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [(2R,3S)-2,3,4-trihydroxybutyl]carbamate,
(C26): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [(2S,3R,4R,5R)-2,3,4,5,6-pentahydroxyhexyl]carbamate,
(C27): ethyl {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonylamino}acetate,
(C28): ethyl carbonate (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C29): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl nicotinate hydrochloride,
(C30): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl acetoxyacetate,
(C31): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-methoxyethoxy)acetate,
(C32): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-methoxyethoxy)ethoxy]acetate,
(C33): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]acetate,
(C34): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-methoxyethoxy)ethoxy]ethoxy}acetate,
(C35): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)acetate,
(C36): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy} acetate,
(C37): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-hydroxyethoxy)ethoxy]acetate,
(C38): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}acetate,
(C39): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]acetate,
(C40): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}acetate,
(C41): 2-[2-(2-methoxy-1-methylethoxy)-1-methylethoxy]-1-methylethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,

(C42): 2-(2-hydroxyethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C43): 2-[2-(2-hydroxyethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C44): 2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C45): 2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C46): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl carbonate 1,4,7,10-tetraoxacyclododec-2-ylmethyl ester,
(C47): 2-(2-hydroxy-l-hydroxymethylethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C48): 2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C49): 2-{2-[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy} ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C50): 2-[2-(2-hydroxyethoxy)ethoxy]-1-[2-(2-hydroxyethoxy)ethoxymethyl]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C51): 2-[2-(2-hydroxyethoxy)ethoxy]-1-{2-[2-(2-hydroxyethoxy)ethoxy]-1-[2-(2-hydroxyethoxy)ethoxymethyl]ethoxymethyl}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C53): 2-(2-hydroxyethoxy)-1-(2-hydroxyethoxymethyl)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C54): 2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}-1-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxymethyl}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C55): 2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C56): 2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(C57): 2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester, and
(C58): (2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxy-ethoxy)-ethoxy]-ethoxy}-ethoxy)-ethoxy]-ethoxy}-ethoxy)-ethoxy]-ethoxy}-ethoxy)-acetic acid (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydro-isoquinolin-7-yl]-oxazolidin-5-ylmethyl ester.

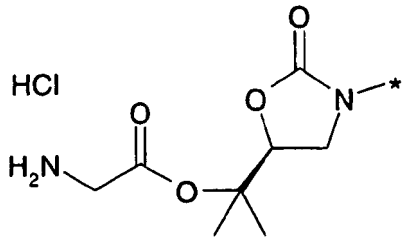
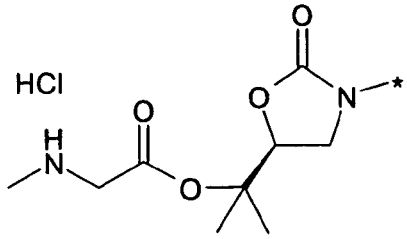
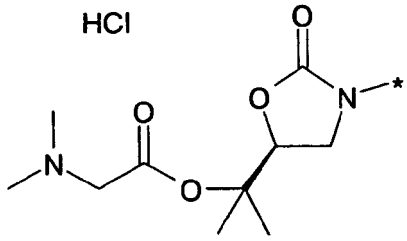
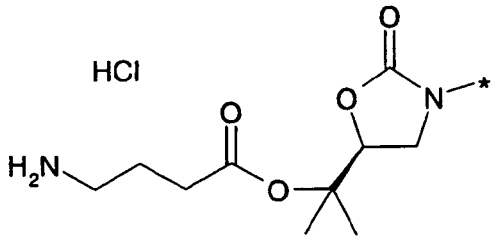
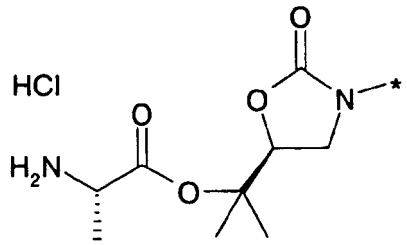
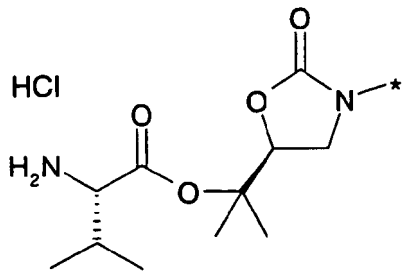
[0103] Furthermore, the present invention includes the compound represented by the following formula and compound shown in the following table:

[Formula 11]

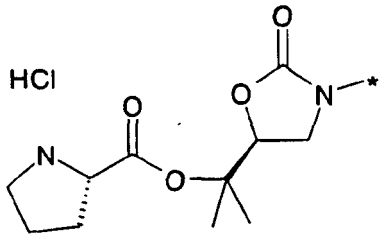
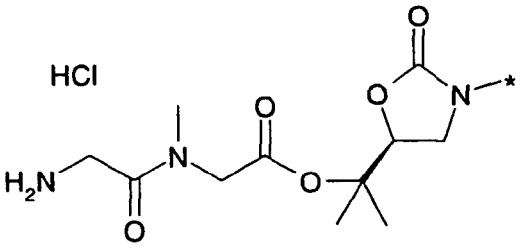
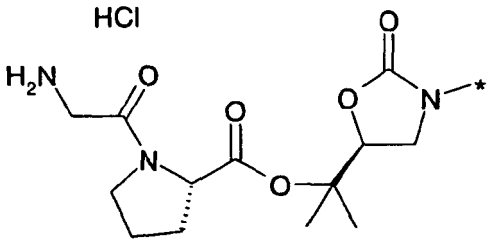
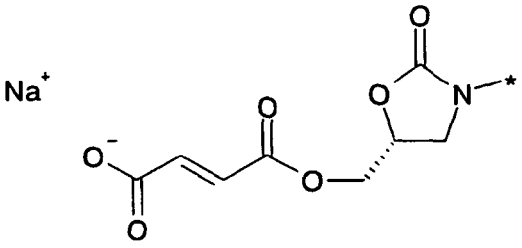
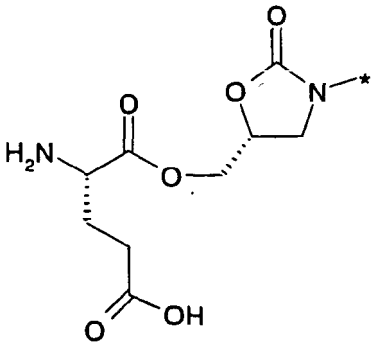
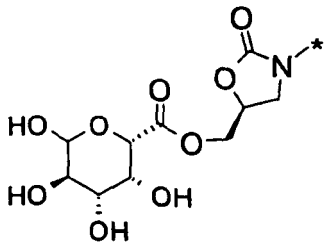


[0104] However, the present invention is not limited to such examples.

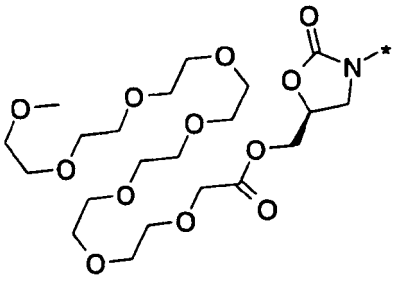
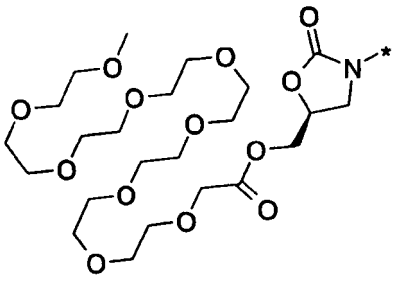
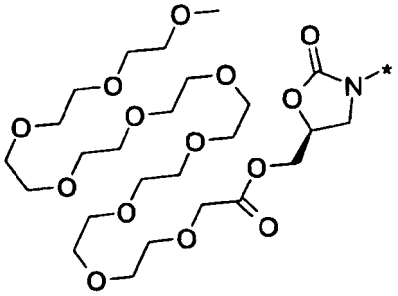
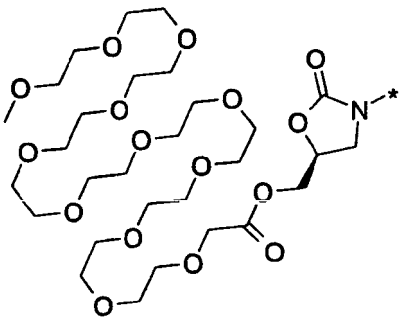
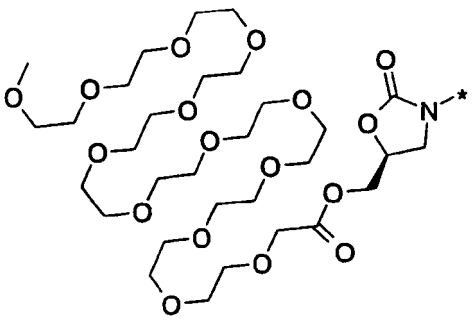
[Table 5-1]

Compound No.	Y
D1	
D2	
D3	
D4	
D5	
D6	

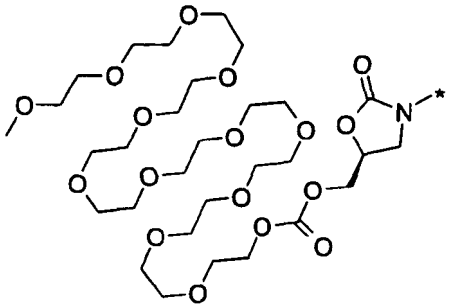
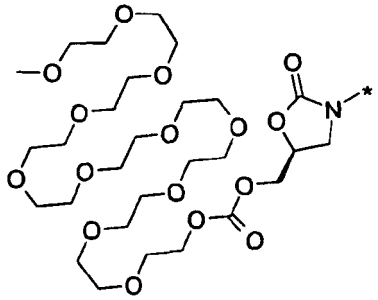
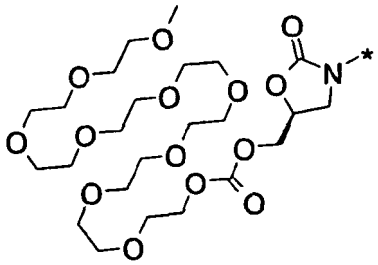
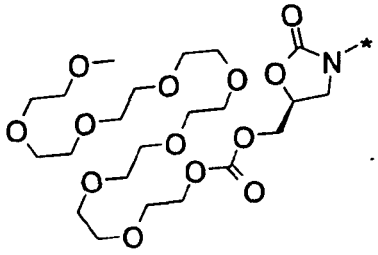
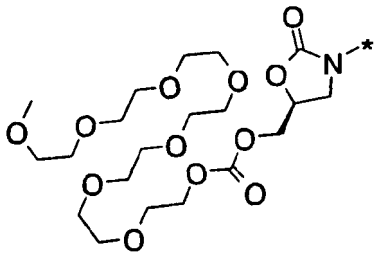
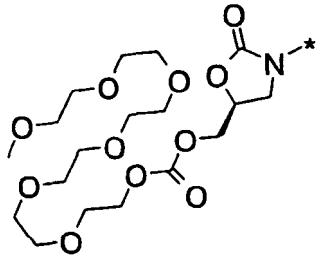
[Table 5-2]

D7	
D8	
D9	
D10	
D11	
D12	

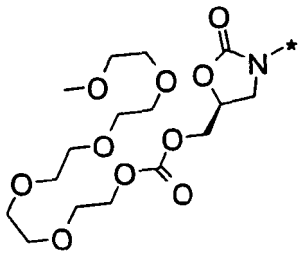
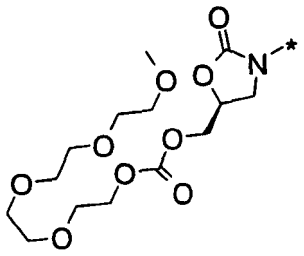
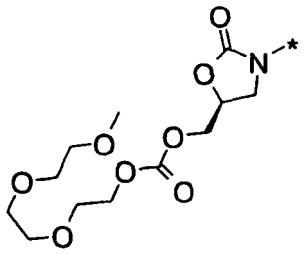
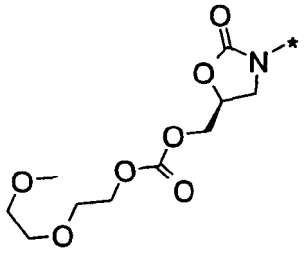
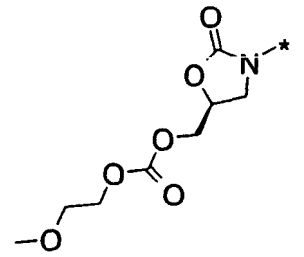
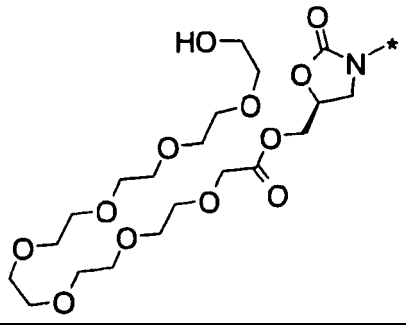
[Table 5-3]

D13	
D14	
D15	
D16	
D17	

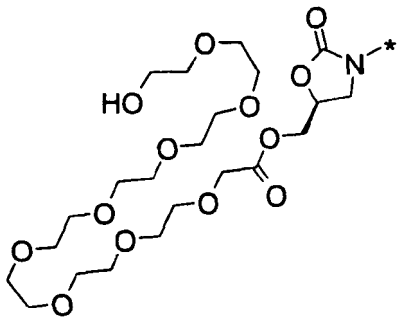
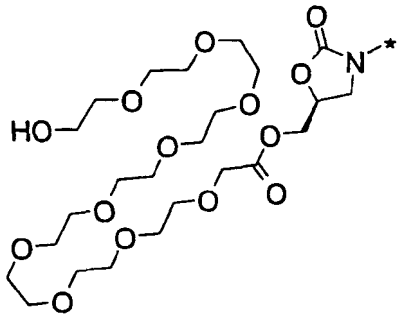
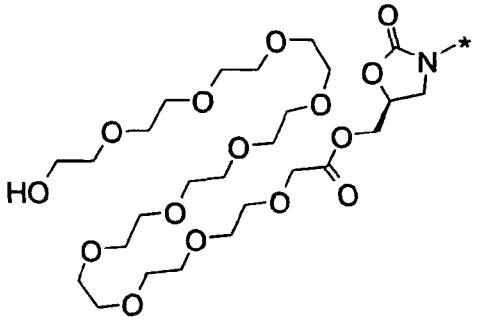
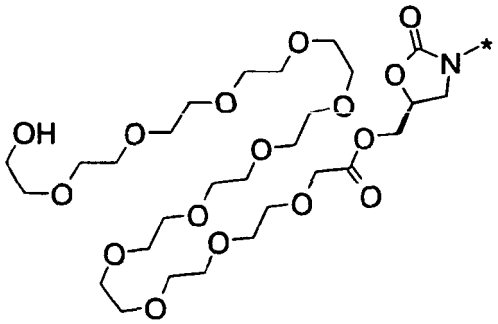
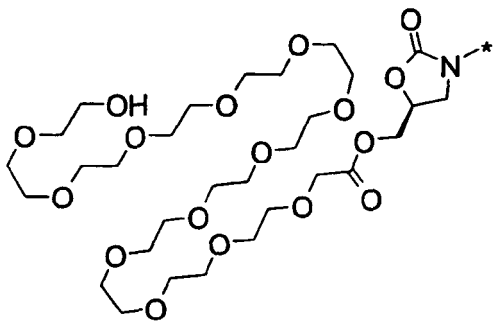
[Table 5-4]

D18	
D19	
D20	
D21	
D22	
D23	

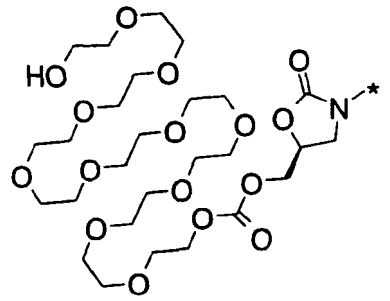
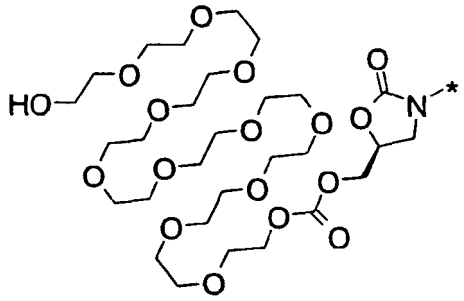
[Table 5-5]

D24	
D25	
D26	
D27	
D28	
D29	

[Table 5-6]

D30	
D31	
D32	
D33	
D34	

[Table 5-7]

D35	
D36	

(D1): 1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl)ethyl aminoacetate hydrochloride,
(D2): 1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl methylaminoacetate hydrochloride,
(D3): 1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl dimethylaminoacetate hydrochloride,
(D4): 1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl 4-aminobutanoate hydrochloride,
(D5): 1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl (S)-2-aminopropionate hydrochloride,
(D6): 1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl (S)-2-amino-3-methylbutanoate hydrochloride,
(D7): 1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl (S)-pyrrolidine-2-carboxylate hydrochloride,
(D8): 1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl [(2-aminoacetyl)methylamino]acetate hydrochloride, and
(D9): 1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl (S)-1-(2-aminoacetyl)pyrrolidine-2-carboxylate hydrochloride.
(D10): sodium (E)-3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}acrylate,
(D11): 1-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl} (S)-2-aminopentanedionate, and
(D12): (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2S,3R,4S,5R)-3,4,5,6-tetrahydroxytetrahydropyrane-2-carboxylate.

The following compounds (D13-D17) are synthesized by a method similar to that of Example 4-36.

(D13): (2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy) acetic acid (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(D14): [2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy] acetic acid (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(D15): {2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy} acetic acid (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(D16): [2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}

ethoxy)ethoxy] acetic acid (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester, and
(D17): {2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy} ethoxy)ethoxy]ethoxy} acetic acid (S)-2-oxo-3 [1-oxo-3-(2-trifluorometylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester.

The following compounds (D18-D28) are synthesized by a method similar to that of Example 4-49.

(D18): 2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(D19): 2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy} ethoxy) ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(D20): 2-[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(D21): 2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(D22): 2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(D23): 2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(D24): 2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(D25): 2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(D26): 2-[2-(2-methoxyethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(D27): 2-(2-methoxyethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester, and
(D28): 2-methoxyethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester.

The following compounds (D29-D34) are synthesized by a method similar to that of Example 4-39.

(D29):(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy} ethoxy)acetate,
(D30):(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]acetate
(D31):(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}acetate,
(D32):(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)acetate,
(D33):(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethoxy]acetate,
(D34):(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}acetate.

The following compounds(D35-D36) are synthesized by a method similar to that of Example 4-48.

(D35):2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester, (D36) : 2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2- hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester.

[0105] Next, a method for producing the compound of the present invention will be described.
Further, when the defined groups undergo an undesirable chemical conversion under the conditions for carrying out the method in the preparation method as shown below, for example, by using means to protect and deprotect the functional groups, the preparation can be performed. Herein, as the selection of a protective group and the operation of deprotection, for example, the method as described in Greene and Wuts, "Protective Groups in Organic Synthesis" (Second Edition, John Wiley & Sons, 1991)" can be mentioned, and this may be suitably used in accordance with reaction conditions. Further, if necessary or required, the order of the reaction step for introducing a substituent and the like may be changed. As the method for preparing the compound represented by formula (1), various methods can be thought and the compound can be synthesized by using the conventional organic synthesis means and, for example, the compound can be prepared by the following method as a representative method.

Representative production methods

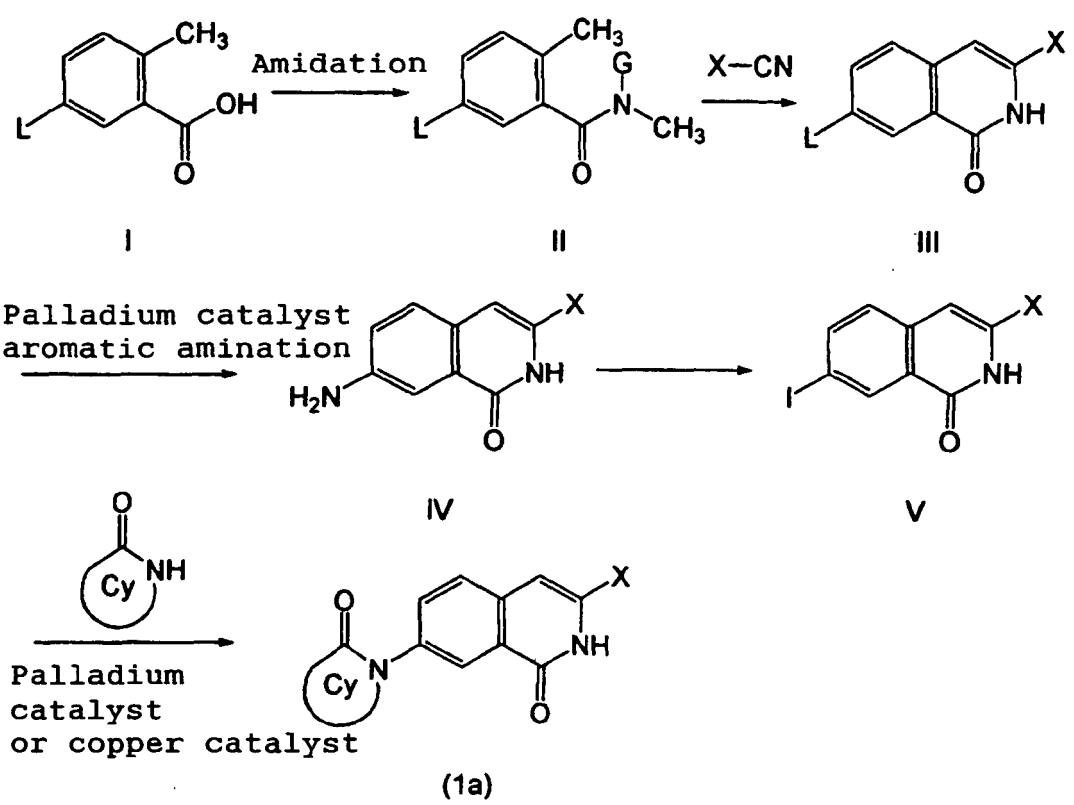
[0106] The compound represented by the formula (1) of the present invention can be produced by the following method, for example. However, the method for producing the compound of the present invention is not limited thereto. The compounds of the present invention are all novel compounds, which have not been described in any publications. The compounds can be produced by known chemical techniques. As a raw material compound used in production, a commercially available compound can be used. Otherwise, such a compound can also be produced by conventional methods, as necessary. In the following reaction processes 1 to 8 and the relevant descriptions, X, Cy, and Ra have the same definitions as those described in the formula (1). Moreover, codes used in the following reaction formulas have common means, which can be understood by persons skilled in the art in the present technical field. Furthermore, L represents Cl or Br, LG represents a leaving group such as a halogen atom, a nitro group, a methanesulfonyloxy group, a trifluoromethanesulfonyloxy group, or a p-toluenesulfonyloxy group; G represents a hydrogen atom or a C_{1-6} alkyl group such as a methyl group; Rc represents a C_{1-6} alkyl group; Rd represents an acyl group included in the definitions of R^{32} (for example, $-S(O)_2R^{39}$, a C_{1-6} alkylcarbonyl group, which may be substituted (wherein when a substituent is an amino group or a C_{1-6} alkylamino group, the group is protected by a protecting group), etc.); J represents an azido group, $-OR^{31}$, or $-NR^{32}R^{33}$; Rf and Rg have the same definitions as those of the aforementioned R^{21} and R^{22}; Rh represents a C_{1-5} alkyl group or a C_{2-7} alkenyl group; Y represents O or S; and PG represents a protecting group (for example, acetyl, t-butoxycarbonyl, benzyloxycarbonyl, t-butyldimethylsilyl, etc.) or a hydrogen atom; wherein R^{21}, R^{22}, R^{31}, R^{32}, and R^{39} are the same as those defined above

1. General synthesis method of compound (1a) represented by the formula (1)

Reaction process 1

[0107]

[Formula 12]



[0108] [wherein L represents Cl or Br; G represents a hydrogen atom or a methyl group; and X and Cy are the same as those defined above].

A 2-methylbenzamide derivative II can be easily prepared by applying a conventional amidation method to a known 2-methylbenzoic acid derivative I. A compound represented by the formula (III) can be produced from the obtained compound represented by the formula II according to known methods (US. Patent No. 4942163; Arch. Pharm. Res., vol. 20, pp. 264-268 (1997); Bioorg. Med. Chem. Lett. vol. 8, pp. 41-46 (1998); Arch. Pharm. Res., vol. 24, pp. 276-280 (2001); Bioorg. Med. Chem. vol. 10, pp. 2953-2961 (2002)). Thus, the compound represented by the formula (III) can be obtained by subjecting the compound represented by the formula II to lithiation with a suitable base (for example, LDA, t-BuLi, s-BuLi, or BuLi) in a suitable solvent (for example, THF or Et_2O) at a suitable temperature (for example, between -78°C and the boiling point of the solvent), and then allowing the resulting intermediate to react with a commercially available reagent, or with an aromatic or hetero aromatic nitrile derivative, which has been prepared by a known method, at a suitable temperature (for example, between -78°C and the boiling point of the solvent).

[0109] A compound represented by the formula (IV) can be produced from the compound represented by the formula (III) according to known methods (Aromatic amination reaction: Wolfe, J. P., J. Org. Chem., vol. 65, pp. 1158-1174 (2000), Harris, M. C., Org. Lett., vol. 4, pp. 2885-2888 (2002), Huang, X., Org. Lett., vol. 3, pp. 3417-3419 (2001)). Thus, the compound represented by the formula IV can be produced by allowing the compound represented by the formula (III) to react in a suitable solvent (toluene, THF, 1,4-dioxane, xylene, dimethoxyethane, etc.) in the presence of a suitable palladium catalyst (for example, $Pd(OAc)_2$, Pd_2dba_3, $PdCl_2[P(o\text{-}tol)_3]_2$, $Pd(O_2CCF_3)_2$, etc.), a suitable ligand (for example, $P(o\text{-}tol)_3$, BINAP, DPPF, $P(t\text{-}Bu)_3$, 2-dicyclohexylphosphino-2'-(N,N-dimethylamino)biphenyl, 2-(di-t-butylphosphino)biphenyl, 2-(dicyclohexylphosphino)biphenyl, etc.), and LiHMDS, at a suitable temperature (between a room temperature and the boiling point of the solvent).

[0110] A compound represented by the formula (V) can be produced from the compound represented by the formula (IV) according to known methods (Sandmeyer's reaction: J. L. Hartwell, Org. Synth., III, p. 185 (1955); P. J. Harrington, and L. S. Hegedus, J. Org. Chem., vol. 49, p. 2657 (1984)).

[0111] A compound represented by the formula (1a) can be produced from the compound represented by the formula (V) according to known methods (Palladium catalyst aromatic amidation: Org. Lett., vol. 2, pp. 1101-1104 (2000); Tetrahedron Lett., vol. 42, pp. 7155-7157 (2001)). Thus, the compound represented by the formula (1a) can be produced

by allowing the compound represented by the formula (V) to react with a commercially available reagent or a cyclic amide prepared by a known method, a suitable solvent (toluene, THF, 1,4-dioxane, xylene, dimethoxyethane, etc.), a suitable palladium catalyst (for example, $Pd(OAc)_2$, Pd_2dba_3, $PdCl_2[P(o\text{-}tol)_3]_2$, $Pd(O_2CCF_3)_2$, etc.), a suitable ligand (for example, $P(o\text{-}tol)_3$, BINAP, DPPF, $P(t\text{-}Bu)_3$, 2-dicyclohexylphosphino-2'-(N,N-dimethylamino)biphenyl, 2-(di-t-butylphosphino)biphenyl, 2-(dicyclohexylphosphino)biphenyl, 2',6'-dimethoxy-2-(dicyclohexylphosphino)biphenyl, 2',4',6'-triisopropyl-2-(dicyclohexylphosphino)biphenyl, 4,5-bisdiphenylphosphanyl-9,9-dimethyl-9H-xanthene, 4,5-bis[bis(3,5-bistrifluoromethylphenyl)phosphanyl]-9,9-dimethyl-9H-xanthene, 1,3-diallyldihydroimidazolium salt, etc.), and a suitable base (t-BuONa, Cs_2CO_3, K_3PO_4, etc.), at a suitable temperature (between a room temperature and the boiling point of the solvent).

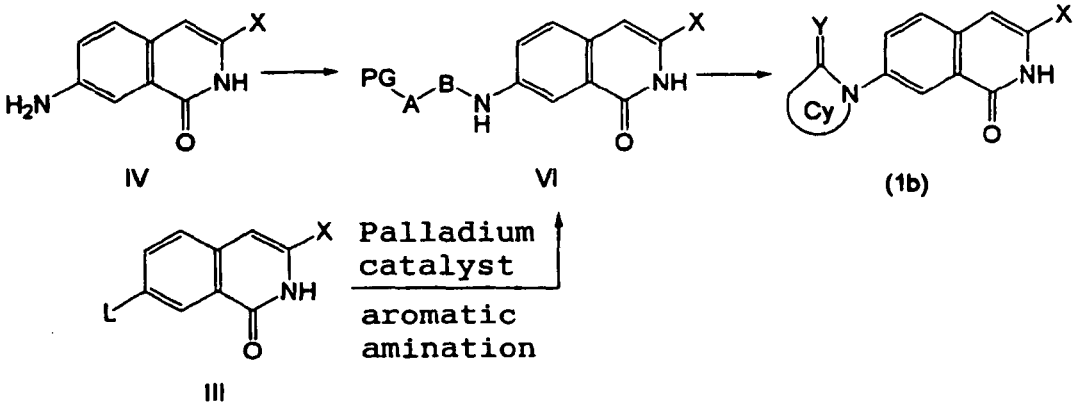
[0112] Moreover, the compound represented by the formula (1a) can also be produced from the compound represented by the formula (V) according to known methods (Copper catalyst aromatic amidation reaction: Buchwald, S. L., J. Am. Chem. Soc., vol. 123, pp. 7727-7729 (2001), Buchwald, S. L., J. Am. Chem. Soc., vol. 124, pp. 7421-7428 (2002)). Thus, the compound represented by the formula (1a) can be produced by allowing the compound represented by the formula (V) to react with a commercially available reagent or a suitable amide compound prepared by a known method in the presence of a suitable solvent (1,4-dioxane, tetrahydrofuran, diethyl ether, toluene, etc.), a suitable copper catalyst (metal copper (powders), copper (I) chloride, copper (I) oxide, copper (II) oxide, copper (II) chloride, copper (II) sulfate, copper (II) acetate, copper (II) acetoacetate, copper (I) iodide, copper (I) trifluoromethanesulfonate, etc.), a suitable ligand (1,2-cyclohexanediamine, N,N'-dimethylethylenediamine, N,N'-dimethyl-1,2-cyclohexanediamine, 1,10-phenanthroline, etc.), and a suitable base (potassium phosphate, potassium carbonate, cesium carbonate, sodium t-butoxide, potassium hexamethyldisilazane, sodium hexamethyldisilazane, phosphazene, etc.), at a suitable temperature (between a room temperature and the boiling point of the solvent.

2. General synthesis method of compound (1b) represented by the formula (1)

Reaction process 2

[0113]

[Formula 13]



[0114] [wherein A represents -O-C(=O)- (wherein PG binds to an oxygen atom, and B binds to a carbonyl group), O, or N-Rb^1; Rb^1 represents a substituents selected from Group Q2, which has already been defined above; B represents a linking group having, as a main chain, 1 to 5 atoms selected from an oxygen atom, a sulfur atom, a nitrogen atom, and a carbon atom (wherein the main chain terminal atom of B that binds to $-NH_2$ of the compound represented by the formula (IV) is a carbon atom), wherein the linking group may contain a double bond, and wherein the carbon atom(s) of the linking group may be substituted with one or more substituents selected from the defined Group Q1, and the nitrogen atom thereof may be substituted with one or more substituents selected from the defined Group Q2; PG represents a protecting group (for example, acetyl, t-butoxycarbonyl, benzyloxycarbonyl, t-butyldimethylsilyl, etc.) or a hydrogen atom; and Cy, Y, X, and L are the same as those defined above].

A compound represented by the formula (VI) can be obtained by subjecting the compound represented by the formula (IV) used in reaction process 1 to a known method (for example, an N-alkylation reaction with an alkyl halide, which can be purchased as a reagent, or is prepared by a known method; a reductive alkylation reaction with aldehyde or ketone,

which can be purchased as a reagent, or is prepared by a known method; a reaction with a commercially available reagent such as glycidol or with epoxide prepared by a known method; the methods disclosed in EP50827 and US4461773, etc.).

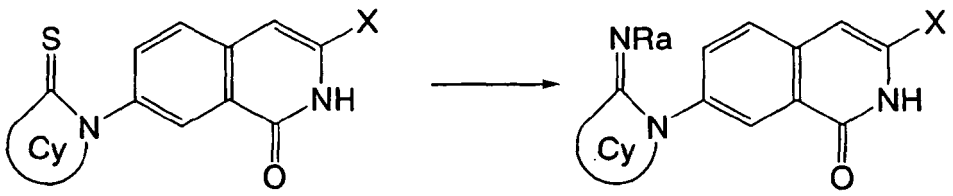
[0115] Moreover, the compound represented by the formula (VI) can also be produced from the compound represented by the formula (III) used in reaction process 1 according to known methods (Aromatic amination: Org. Lett., vol. 2, pp. 1101-1104 (2000); Tetrahedron Lett., vol. 42, pp. 7155-7157 (2001)). A compound represented by the formula (1b) can be produced by deprotecting the compound represented by the formula (VI) according to a known method, as necessary, and then subjecting the resulting compound to known methods (when A is O or N-Rb^1, a carbonylation reaction or thiocarbonylation reaction using phosgene, CS_2, etc.; Journal of Organic Chemistry, vol. 60(20), pp. 6604-6607 (1995), Journal of Organic Chemistry, vol. 66(11), pp. 3940-3947 (2001); a cyclization reaction using a halogenated acetyl halide: Heterocycles, vol. 38(5), pp. 1033-1040 (1994); when A is CO(=O), a condensation reaction using DCC, WSCI (N-ethyl-N'-(3-dimethylaminopropyl)carbodiimide hydrochloride) or a BOP reagent).

3. General synthesis method of compound (1c) represented by the formula (1)

Reaction process 3

[0116]

[Formula 14]



(1b') (1c)

[wherein Ra, Cy, and X are the same as those defined above].

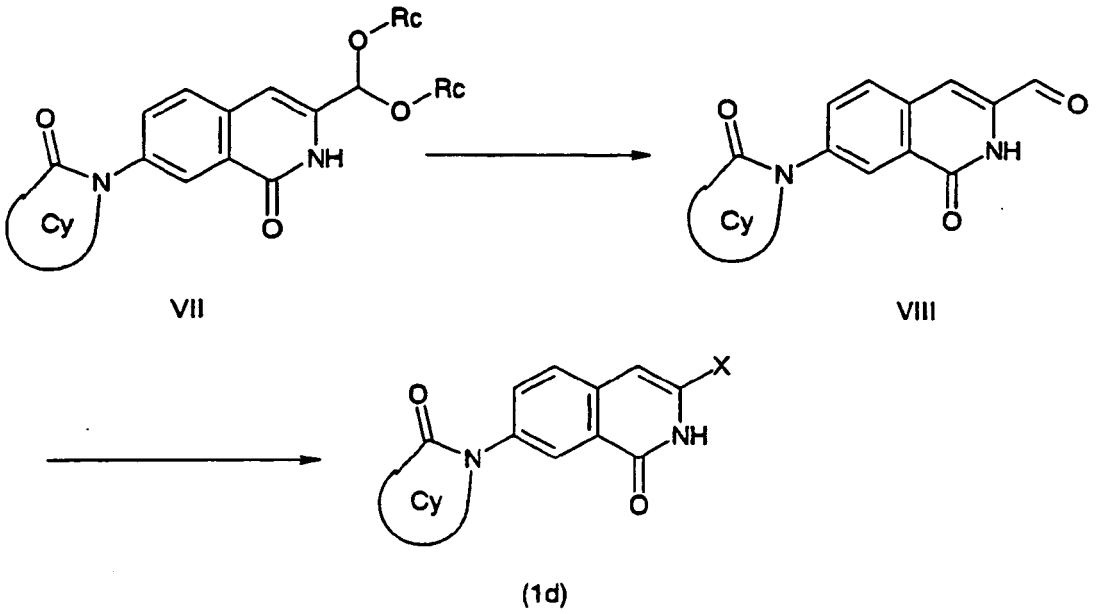
[0117] A compound represented by the formula (1c) can be produced by subjecting the compound represented by the formula (1b'), which can be produced by reaction process 2, to a known method (for example, a reaction of ammonia, or alkylamine or alkoxyamine which is commercially available or can be prepared by a known method, with a condensing agent such as WSC or DCC: Bioorganic & Medicinal Chemistry Letters, vol. 12, pp. 2931-2934 (2002)).

4. General synthesis method of compound (1d) represented by the formula (1)

Reaction process 4

[0118]

[Formula 15]



[wherein Rc, Cy, and X are the same as those defined above].

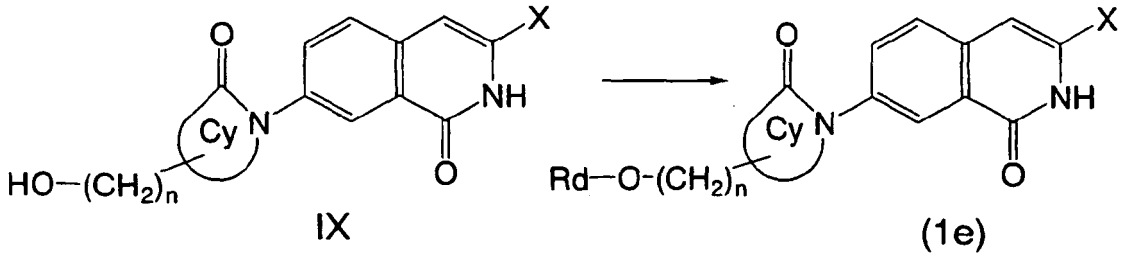
[0119] A compound represented by the formula (1d) can be produced by deprotecting the compound represented by the formula (VII), which can be produced by reaction process 2, by known methods (for example, a reaction under acidic conditions such as TFA, etc.), and then subjecting the obtained compound represented by the formula (VIII) to a known method (for example, a condensation reaction with a diamine derivative, which can be purchased as a reagent or prepared by a known method; Tetrahedron Letters, vol. 46, pp. 2197-2199 (2005), Bioorganic & Medicinal Chemistry Letters, vol. 8, pp. 361-364 (1998), Tetrahedron Letters, vol. 46, pp. 2197-2199 (2005), Journal of Medicinal Chemistry, vol. 29, pp. 1065-1080 (1986), Bioorganic & Medicinal Chemistry Letters, vol. 13, pp. 1989-1992 (2003)).

5. General synthesis method of compound (1e) represented by the formula (1)

Reaction process 5

[0120]

[Formula 16]



[wherein Rd, Cy, and X are the same as those defined above, and n represents an integer between 0 and 8].

[0121] With regard to the synthesis of an ester derivative, a compound represented by the formula (1e) can be produced by subjecting the compound represented by the formula (IX), which can be produced by reaction process 1 or 2, to a known method (for example, a condensation reaction of a DCC, WSCI reagent, or the like, with DMAP, or an acylation reaction using an acid anhydride or an acid halide: Jikken Kagaku Koza, 4th edition, (Maruzen), vol. 22, pp. 43-82), using carboxylic acid, an acid anhydride, amino acid, or the like, which is commercially available or can be synthesized by a known method.

[0122] With regard to the synthesis of a carbonate derivative, a compound represented by the formula (1e) can be

produced by activating alcohol, which is commercially available or can be synthesized by a known method, according to a known method (a reaction using phosgene or the like: Organic Synthesis Collective Volume 6, p. 715, (1988), a reaction using 4-nitrophenyl chloroformate; WO2005-018568), and then condensing the resultant compound with the compound represented by the formula (IX). As an alternative synthesis method, such a compound represented by the formula (1e) can be produced by activating the compound represented by the formula (IX) according to a known method (a reaction using phosgene or the like: Organic Synthesis Collective Volume 6, p. 715, (1988), a reaction using 4-nitrophenyl chloroformate; W02005-018568), and then condensing the resultant compound with alcohol, which is commercially available or can be synthesized by a known method.

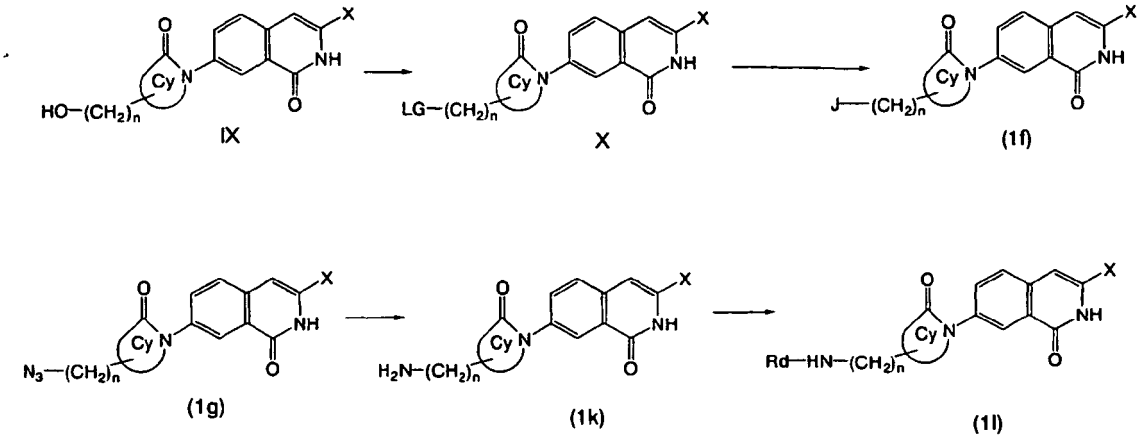
With regard to the synthesis of a carbamate derivative, a compound represented by the formula (1e) can be produced by activating the compound represented by the formula (IX) according to a known method (a reaction using phosgene or the like: Organic Synthesis Collective Volume 6, p. 715, (1988), a reaction using 4-nitrophenyl chloroformate; WO2005-018568), and then condensing the resultant compound with amine, which is commercially available or can be synthesized by a known method. Further, as an alternative synthesis method, such a derivative can be produced by subjecting the compound represented by the formula (IX) to a known method (Jikken Kagaku Koza, vol. 20, p. 358 (4th edition)), using isocyanate, which is commercially available or can be synthesized by a known method.

6. General synthesis method of compound (1f, 1g, 1k, 11) represented by the formula (1)

Reaction process 6

[0123]

[Formula 17]



[wherein LG, J, Rd, Cy, and X are the same as those defined above, and n represents an integer between 0 and 8].

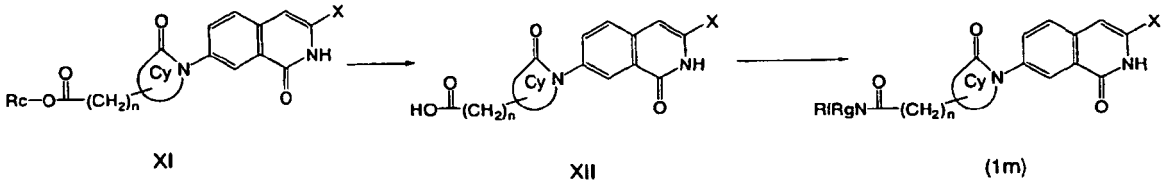
[0124] A compound represented by the formula (1f) can be produced by converting a hydroxyl group of the compound represented by the formula (IX), which can be produced by reaction process 1 or 2, to a leaving group according to the known method, and then subjecting the obtained compound to a known method (for example, a reaction with oxygen nucleophilic species (for example, sodium alkoxide, etc.): Tetrahedron, vol. 43, pp. 3803-3816 (1987), nitrogen nucleophilic species (for example, morpholine, piperidine, pyrrolidine, etc.): J. Med. Chem. vol. 23, pp. 1380-1386 (1980), Bioorg. Med. Chem. Lett. vol. 13, pp. 4169-4172 (2003), or sulfur nucleophilic species (for example, NaSMe etc.): Bioorganic Med. Chem. Lett. vol. 15, pp. 699-703 (2005), Bioorganic Med. Chem. vol. 12, pp. 4393-4401 (2004)). A compound represented by the formula (1k)can be synthesized by allowing the compound represented by the formula (X) to react with sodium azide acting as nucleophilic species according to the known method, and then reducing the obtained compound. A compound represented by the formula (11) can be produced by subjecting the obtained compound represented by the formula (1k) to an acylation reaction (for example, a condensation reaction of carboxylic acid or the like with a DCC, WSCI reagent, or the like, an acylation reaction using an acid anhydride or an acid halide: Jikken Kagaku Koza, 4th edition (Maruzen), vol. 22, pp. 137-173, Tetrahedron, vol. 57, pp. 1551-1558 (2001)).

7. General synthesis method of compound (1m) represented by the formula (1)

Reaction process 7

[0125]

[Formula 18]



[wherein Rc, Rf, Rg, Cy, and X are the same as those defined above, and n represents an integer between 0 and 6].

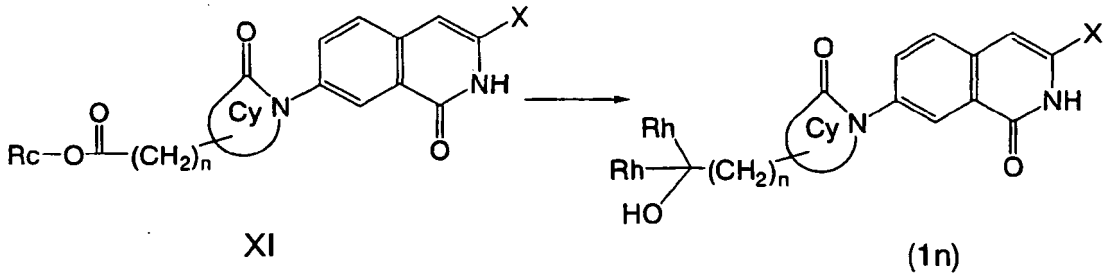
[0126] A compound represented by the formula (1m) can be produced by hydrolyzing according to the known method the compound represented by the formula (XI), which can be produced by reaction process 1 or reaction process 2, and then subjecting the resulting compound to the same acylation reaction as performed in reaction process 6, using amine, which is commercially available or can be synthesized by a known method.

8. General synthesis method of compound (1n)represented by the formula (1)

Reaction process 8

[0127]

[Formula 19]



[wherein Rc, Rh, Cy, and X are the same as those defined above, and n represents an integer between 0 and 6].

[0128] A compound represented by the formula (1n) can be produced by subjecting the compound represented by the formula (XI), which can be produced by reaction process 1 or reaction process 2, to a known method (for example, a reaction with an organic metal reagent such as MeMgBr: J. Org. Chem. vol. 70, pp. 261-267 (2005)).

[0129] Some of starting material compounds for the compound of the present invention are novel compounds. Such novel compounds can be easily synthesized in the same manner as for known raw material compounds, or by applying methods known to persons skilled in the art.

[0130] Examples of a method for producing the compound represented by the formula (1) of the present invention have been given above. Isolation and purification of the compounds of interest shown in the aforementioned reaction processes can be carried out by applying common chemical operations such as extraction, concentration, distillation, crystallization, filtration, recrystallization, or various types of chromatography.

[0131] The compound of the present invention and a pharmaceutically acceptable salt thereof include all stereoisomers of the compound represented by the formula (1) (for example, an enantiomer and a diastereomer (including cis- and trans-geometric isomers)), racemate of the aforementioned isomers, and other mixtures.

[0132] In addition, the compound of the present invention and a pharmaceutically acceptable salt thereof can be present in several tautomeric forms, such as enol and imine forms, keto and enamine forms, and mixtures thereof. Such tautomeric isomers are present in a solution in the form of a mixture of tautomeric sets. In a solid form, either one tautomeric isomer is generally dominant. There are cases where only either one tautomeric isomer is described, but the

present invention includes all tautomeric isomers of the compound of the present invention.

[0133] When the compound of the present invention is obtained in the free form, it can be converted into a salt, which the compound may form, a hydrate thereof, or a solvate thereof, according to a common method.

[0134] In addition, when the compound of the present invention is obtained in the form of such a salt, hydrate, or solvate of the compound, they can be converted to a free form of the compound according to a common method.

[0135] The compound of the present invention or a pharmaceutically acceptable salt thereof has excellent antitumor action. It is excellent in terms of stability *in vivo* and solubility in water, and is useful as a preventive or therapeutic agent (particularly as a therapeutic agent) used for proliferative diseases such as cancer. Excellent water solubility results in excellent absorption properties of the compound **and** a salt thereof, *in vivo*. Further, an increase in beneficial effect can be anticipated. Moreover, the compound of the present invention or a pharmaceutically acceptable salt is useful as a preventive or therapeutic agent (particularly as a therapeutic agent) used for various types of cancers such as breast cancer, colon cancer, ovarian cancer, lung cancer, pancreatic cancer, liver cancer, uterine cancer, brain tumor, prostatic cancer, blood cancer (acute leukemia, malignant lymphoma, etc.), bladder cancer, esophageal cancer, skin cancer, testicular cancer, thyroid cancer, and stomach cancer, and in particular, solid cancers such as breast cancer, colon cancer, ovarian cancer, lung cancer, pancreatic cancer, liver cancer, uterine cancer, brain tumor, prostatic cancer, and stomach cancer. Furthermore, since the compound of the present invention is characterized in that it causes few effects (enzyme inhibition, etc.) on drug metabolizing enzymes such as CYP3A4, it has preferred effects as a pharmaceutical in terms of safety.

[0136] The aforementioned methods include a step of administering to patients, who need such treatment or who suffer from the aforementioned diseases or symptoms, a pharmaceutical composition comprising the compound disclosed in the present invention or a pharmaceutically acceptable salt thereof, at a pharmaceutically effective dosage.

[0137] When the pharmaceutical composition of the present invention is used as a therapeutic or preventive agent for proliferative diseases such as cancer, examples of an administration method may include oral, intrarectal, parenteral (intravenous, intramuscular, or subcutaneous), intracisternal, intravaginal, intraperitoneal, intravesical, and local (administration of drop, powders, ointment, or cream) administrations, and inhalation (intraoral or nasal spray). Examples of such an administration form may include a tablet, a capsule, a granule, a powder, a pill, an aqueous or nonaqueous oral solution, a suspension, and a parenteral solution, which is filled in a container suitable for dividing the solution into individual dosages. In addition, such an administration form can also be adapted to various administration methods including controlled released preparations such as those used in subcutaneous transplantation.

[0138] The aforementioned pharmaceutical can be produced according to known methods using additives such as an excipient, a lubricant (coating agent), a binder, a disintegrator, a stabilizer, a flavoring agent, or a diluent.

[0139] Examples of an excipient may include starches such as starch, potato starch, or corn starch, lactose, crystalline cellulose, and calcium hydrogen phosphate.

[0140] Examples of a coating agent may include ethyl cellulose, hydroxypropylcellulose, hydroxypropylmethylcellulose, shellac, talc, carnauba wax, and paraffin.

[0141] Examples of a binder may include polyvinylpyrrolidone, macrogol, and the same compounds as those described in the excipient.

[0142] Examples of a disintegrator may include the same compounds as those described in the excipient, and chemically modified starches and celluloses, such as croscarmellose sodium, carboxymethyl starch sodium, or crosslinked polyvinylpyrrolidone.

[0143] Examples of a stabilizer may include: p-hydroxybenzoic esters such as methylparaben or propylparaben; alcohols such as chlorobutanol, benzyl alcohol, or phenylethyl alcohol; benzalkonium chloride; phenols such as phenol or cresol; thimerosal; dehydroacetic acid; and sorbic acid.

[0144] Examples of a flavoring agent may include commonly used sweeteners, acidulants, and aromatics.

[0145] Examples of a solvent used in production of a liquid agent may include ethanol, phenol, chlorocresol, purified water, and distilled water.

[0146] Examples of a surfactant or emulsifier may include polysorbate 80, polyoxyl 40 stearate, and lauromacrogol.

[0147] When the pharmaceutical composition of the present invention is used as a therapeutic or preventive agent for proliferative diseases, the amount used of the compound of the present invention or a pharmaceutically acceptable salt thereof is different depending on symptom, age, body weight, relative physical conditions, the use of other agents, an administration method, etc. For example, for a patient (a hematherm, and particularly a human), in the case of administering an active ingredient (the compound represented by the formula (1) of the present invention) as an oral agent, an effective amount is generally preferably 0.01 and 5,000 mg, and more preferably between 0.1 and 500 mg per kg of body weight per day. In the case of a parenteral agent, such an effective amount is preferably 0.01 and 5,000 mg, and more preferably between 0.1 and 500 mg per kg of body weight per day. It is desired that such an amount of pharmaceutical composition be administered depending on symptoms.

Examples

[0148] The present invention will be more specifically described in the following examples. However, these examples are not intended to limit the scope of the present invention. It is to be noted that NMR analysis was carried out using JNM-EX270 (270 MHz), JNMGSX400 (400 MHz) or JNM-A500 (500 MHz), which are manufactured by JEOL, or NMR (300 MHz) manufactured by Bruker. NMR data was indicated with ppm (parts per million). The deuterium lock signal from a sample solvent was referred. Mass spectrum data was obtained using JMS-DX303 or JMS-SX/SX102A manufactured by JEOL, or Quttromicro manufactured by Micromass. In addition, mass spectrum data including high performance liquid chromatography was obtained, using a micromass (ZMD manufactured by Micromass) equipped with a 996-600E gradient high performance liquid chromatography manufactured by Waters, or using a micromass (ZQ manufactured by Micromass) equipped with a 2525 gradient high performance liquid chromatography manufactured by Waters. Any of the following conditions were applied for such high performance liquid chromatography.

High performance liquid chromatography condition 1.

[0149]

Column: Combi ODS (ODS, 5 μm, 4.6 mm I.D. x 50 mm, manufactured by Wako Pure Chemical Industries, Ltd.), COSMOSIL (ODS, 5 μm, 4.6 mm I.D. x 50 mm, manufactured by Nacalai Tesque, Inc.), Inertsil C18 (ODS, 5 μm, 4.6 mm I.D. x 50 mm, manufactured by GL Sciences, Inc), or SunFire C18 (ODS, 5 μm, 4.6 mm I.D. x 50 mm, manufactured by Waters)
Mobile phase: Water (A) that contains 0.05% trifluoroacetic acid and acetonitrile (B) that contains 0.05% trifluoroacetic acid
Elution method: A stepwise solvent gradient elution comprising eluting from 10% B to 95% B (3.5 minutes), eluting from 95% B to 10% B (1 minute), and then retaining at 10% B (0.5 minutes) Flow rate: 4.0 ml/minute

High performance liquid chromatography condition 2

[0150]

Column: Combi ODS (ODS, 5 μm, 4.6 mm I.D. x 50 mm, manufactured by Wako Pure Chemical Industries, Ltd.), COSMOSIL (ODS, 5 μm, 4.6 mm I.D. x 50 mm, manufactured by Nacalai Tesque, Inc.), Inertsil C18 (ODS, 5 μm, 4.6 mm I.D. x 50 mm, manufactured by GL Sciences, Inc), or SunFire C18 (ODS, 5 μm, 4.6 mm I.D. x 50 mm, manufactured by Waters)
Mobile phase: Water (A) that contains 0.05% trifluoroacetic acid and acetonitrile (B) that contains 0.05% trifluoroacetic acid
Elution method: A stepwise solvent gradient elution comprising eluting from 30% B to 35% B (0.2 minutes), eluting from 35% B to 98% B (3.3 minutes), eluting from 98% B to 30% B (1 minute), and then retaining at 30% B (0.5 minutes)
Flow rate: 4.0 ml/minute

High performance liquid chromatography condition 3

[0151]

Column: Combi ODS (ODS, 5 μm, 4.6 mm I.D. x 50 mm, manufactured by Wako Pure Chemical Industries, Ltd.), or SunFire C18 (ODS, 5 μm, 4.6 mm I.D. x 50 mm, manufactured by Waters)
Mobile phase: Water (A) that contains 0.05% trifluoroacetic acid and acetonitrile (B) that contains 0.05% trifluoroacetic acid
Elution method: A stepwise solvent gradient elution comprising eluting from 10% B to 95% B (2 minutes), retaining at 95% B (1.5 minutes), eluting from 95% B to 10% B, and retaining at 10% B (0.5 minutes)
Flow rate: 4.0 ml/minute

[0152] An organic synthetic reaction was carried out using a commercially available reagent, which has not been further purified before use. The term "room temperature" is used herein to mean a temperature ranging from 20°C to 25°C. All antiposic reactions were carried out in a nitrogen atmosphere. Concentration under reduced pressure or solvent distillation was carried out using a rotary evaporator, unless otherwise specified.

[0153] For preparation of compounds, a functional group is protected by a protecting group as necessary, a protector of a target molecule is prepared, and the protecting group is then removed. Operations to select such a protecting group

and to remove it were carried out according to the method described in Greene and Wuts, "Protective Group in Organic Synthesis," 2nd edition, John Wiley & Sons, 1991, for example.

[Example 1-1]

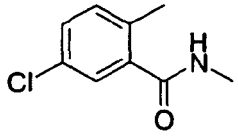
7-(2-Oxoazetidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

5-Chloro-2,N-dimethylbenzamide

[0154]

[Formula 20]



[0155] Thionyl chloride (42.8 ml, 586 mmol) was added to 5-chloro-2-methylbenzoic acid (25.0 g, 147 mmol). The mixture was stirred under heating to reflux for 1.5 hours. Thereafter, excessive thionyl chloride was distilled away under reduced pressure. The residue was dissolved in methylene chloride (140 ml), and a 40% methylamine aqueous solution (34.2 ml, 440 mmol) was then added dropwise thereto under cooling on ice. Thereafter, the obtained mixture was stirred at 0°C for 1 day. Thereafter, the reaction solution was extracted with ethyl acetate, and the extract was then washed with a saturated saline solution. The resultant was then dried over anhydrous sodium sulfate, and the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 1 : 3 to 3 : 2), so as to obtain 5-chloro-2,N-dimethylbenzamide (24.2 g; yield: 90%) in the form of a colorless solid.

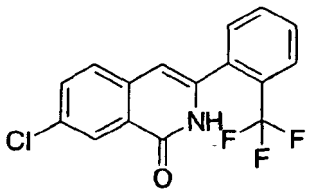
[0156] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 2.40 (3H, s), 2.99 (3H, d, J=4.6Hz), 5.77 (1H, brs), 7.15 (1H, d, J=8.3Hz), 7.27 (1H, dd, J=2.3, 8.3Hz), 7.33 (1H, d, J=2.3Hz)
ESI (LC-MS positive mode) m/z 184 (M+H).

Step B

7-Chloro-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0157]

[Formula 21]



[0158] A 1.8 M lithium diisopropylamide THF solution (45.3 ml, 81.6 mmol) was diluted with THF (68 ml). Thereafter, a solution obtained by dissolving the 5-chloro-2,N-dimethylbenzamide (5.0 g, 27.2 mmol) prepared in step A in THF (28 ml) was added dropwise to the diluted solution at -78°C. Thereafter, a solution obtained by dissolving 2-trifluoromethylbenzonitrile (4.65 g, 27.2 mmol) in THF (28 ml) was further added thereto, and the obtained mixture was then stirred at -78°C for 2.5 hours. The temperature of the reaction solution was increased to a room temperature, and a saturated ammonium chloride aqueous solution was added thereto, followed by extraction with ethyl acetate. The extract was washed with a saturated saline solution, and was then dried over anhydrous sodium sulfate. Thereafter, a solid generated as a result of vacuum concentration was filtrated, so as to obtain 7-chloro-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (6.87 g; yield: 78%) in the form of a colorless solid.

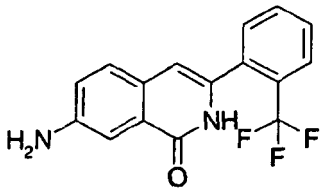
[0159] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 6.49 (1H, s), 7.33-7.72 (5H, m), 7.81-7.84 (1H, d, J=7.26Hz), 8.32-8.33 (1H, d, J=1.65Hz), 9.18 (1H, brs)
ESI (LC-MS positive mode) m/z 324 (M+H).

Step C

7-Amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0160]

[Formula 22]

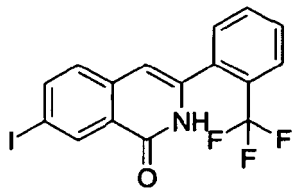


[0161] A 1 M lithium bis(trimethylsilyl)amide THF solution (21mL, 21mmol) was added to a mixture of the 7-chloro-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (2.50 g, 7.72 mmol) prepared in step B, 2-(dicyclohexylphosphino)biphenyl (64.9 mg, 0.185 mmol), and tris(dibenzylideneacetone)dipalladium (70.7 mg, 0.0772 mmol), and the obtained mixture was stirred under heating to reflux for 1 day. Thereafter, the reaction solution was cooled to a room temperature, and 1 N hydrochloric acid (63 ml) was then added thereto, followed by stirring for 5 minutes. Thereafter, the reaction solution was neutralized with a 5 N sodium hydroxide aqueous solution (8 ml), and then extracted with methylene chloride. The extract was washed with a saturated saline solution, and was then dried over anhydrous sodium sulfate, followed by concentration. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 3 : 1 to 6 : 1), so as to obtain 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (2.14 g; yield: 91%) in the form of a brown solid.
[0162] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 4.00 (2H, brs), 6.43 (1H, s), 7.07 (1H, dd, J=2.5, 8.3Hz), 7.40 (1H, d, J=8.3Hz), 7.50-7.69 (4H, m), 7.76-7.83 (1H, m), 8.63 (1H, brs)
ESI (LC-MS positive mode) m/z 305 (M+H).

Step D

[0163] 7-Iodo-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[Formula 23]



[0164] A 1 N sulfuric acid aqueous solution (30 ml) and sodium nitrite (862.5 mg, 12.5 mmol) were added at 0°C to an acetic acid solution (15 ml) that contained the 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (1.52 g, 5.0 mmol) obtained in step C, and the obtained mixture was stirred for 30 minutes. Thereafter, sodium iodide (2.62 g, 17.5 mmol) and copper iodide (I) (952.3 mg, 5.0 mmol) were added to the reaction solution, and the obtained mixture was stirred at 80°C for 1 hour. The reaction solution was cooled, and a saturated sodium bicarbonate aqueous solution was added thereto, followed by extraction with ethyl acetate. The extract was washed with a saturated saline solution, and was then dried over anhydrous sodium sulfate, followed by concentration. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 1 : 4 to 1 : 2). The resultant was washed with a sodium thiosulfate aqueous solution, so as to obtain 7-iodo-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (1.87 g; yield: 90%) in the form

of a pale yellow solid.

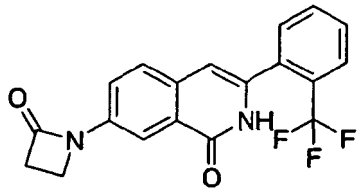
[0165] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 6.47 (1H, s), 7.31 (1H, d, J=8.6Hz), 7.55 (1H, dd, J=1.7, 7.3Hz), 7.59-7.73 (2H, m), 7.83 (1H, dd, J=2.0, 6.9Hz), 7.96 (1H, dd, J=1.8, 8.4Hz), 8.72 (1H, d, J=1.6Hz), 9.06 (1H, brs)
ESI (LC-MS positive mode) m/z 416 (M+H).

Step E

7-(2-Oxoazetidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0166]

[Formula 24]



[0167] The 7-iodo-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (10.0 mg, 0.024 mmol) prepared in step D, copper iodide (I) (0.48 mg, 0.0025 mmol), 2-azetidinone (2.13 mg, 0.03 mmol), and potassium phosphate (11.1 mg, 0.0525 mmol) were suspended in 1,4-dioxane (0.25 ml). Thereafter, N,N'-dimethylethylenediamine (2.6 μl) was added to the suspension, and the obtained mixture was stirred under heating to reflux overnight. Thereafter, the reaction solution was cooled to a room temperature, and a saturated ammonium chloride aqueous solution was then added thereto, followed by extraction with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and the solvent was then distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 3 : 1 to 6 : 1), so as to obtain 7-(2-oxoazetidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (3.8 mg; yield: 44%) in the form of a colorless solid.

[0168] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 3.20 (2H, t, J=4.6Hz), 3.77 (2H, t, J=4.6Hz), 6.51 (1H, s), 7.50-7.71 (4H, m), 7.80-7.87 (2H, m), 8.27 (1H, dd, J=2.3, 8.6Hz), 8.65 (1H, brs)
ESI (LC-MS positive mode) m/z 359 (M+H).

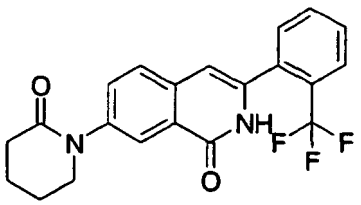
[0169] The following compounds (Examples 1-2 to 1-12) were synthesized by a reaction similar to step E of Example 1-1, using the 7-iodo-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step D of Example 1-1 as a raw material.

[Example 1-2]

7-(2-Oxopiperidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0170]

[Formula 25]



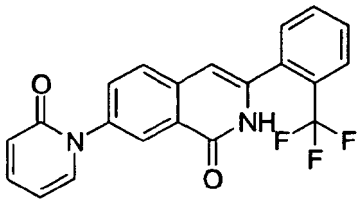
[0171] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 1.95-2.00 (4H, m), 2.61 (2H, t, J=5.9Hz), 3.78 (2H, t, J=6.1Hz), 6.52 (1H, s), 7.52-7.69 (4H, m), 7.73 (1H, dd, J=2.3, 8.6Hz), 7.83 (1H, dd, J=1.7, 7.6Hz), 8.24 (1H, d, J=2.3Hz), 8.44 (1H, brs)
ESI (LC-MS positive mode) m/z 387 (M+H).

[Example 1-3]

7-(2-Oxo-2H-pyridin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0172]

[Formula 26]

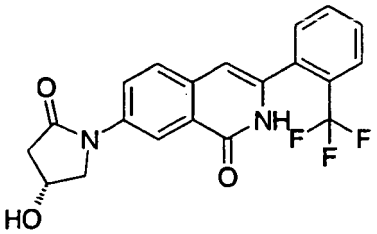


[0173] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 6.31 (1H, dt, J=1.3, 6.8Hz), 6.57 (1H, s), 6.70 (1H, dd, J=1.2, 9.7Hz), 7.40-7.49 (2H, m), 7.52-7.63 (4H, m), 7.80-7.89 (2H, m), 8.34 (1H, d, J=2.3Hz), 8.67 (1H, brs)
ESI (LC-MS positive mode) m/z 383 (M+H).

[Example 1-4]

[0174] 7-((R)-4-Hydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[Formula 27]

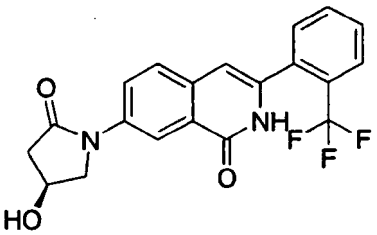


[0175] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.37 (1H, d, J=17.9Hz), 2.90 (1H, dd, J=17.9, 6.3Hz), 3.70 (1H, d, J=10.6Hz), 4.19(1H, dd, J=10.6, 5.2Hz), 4.45 (1H, brs), 5.43 (1H, d, J=3.6Hz), 6.49(1H,s), 7.63-7.81(4H,m), 7.88(1H, d,J=7.8Hz), 8.14(1H,dd,J=7.8, 2.3Hz),
8.36(1H,d,J=2.3Hz),11.60(1H,s)
ESI (LC-MS positive mode) m/z 389 (M+H).

[Example 1-5]

[0176] 7-((S)-4-Hydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[Formula 28]



[0177] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.37 (1H, d, J=17.2Hz), 2.90 (1H, dd, J=17.2, 6.2Hz), 3.70 (1H, d, J=10.1Hz), 4.19 (1H, dd, J=10.1, 5.1Hz), 4.45 (1H, brs), 5.44 (1H, brs), 6.49 (1H, s), 7.66-7.82 (4H, m), 7.88 (1H, d,

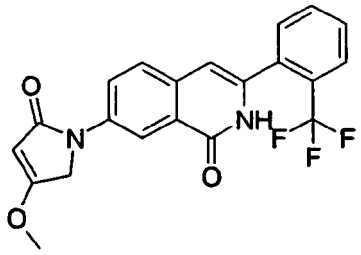
J=7.7Hz), 8.14 (1H, dd, J=7.7, 2.4Hz), 8.37 (1H, d, J=2.4Hz), 11.61 (1H, s)
ESI (LC-MS positive mode) m/z 389 (M+H).

[Example 1-6]

7-(4-Methoxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0178]

[Formula 29]



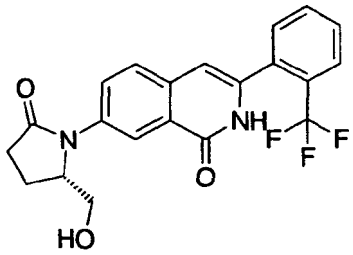
[0179] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.89 (3H, s), 4.62 (2H, s), 5.39 (1H, s), 6.45 (1H, s), 7.61-7.88 (5H, m), 8.16 (1H, dd, J=8.7, 2.5Hz), 8.42 (1H, d, J=2.5Hz), 11.53 (1H, brs)
ESI (LC-MS positive mode) m/z 401 (M+H).

[Example 1-7]

7-((S)-2-Hydroxymethyl-5-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0180]

[Formula 30]



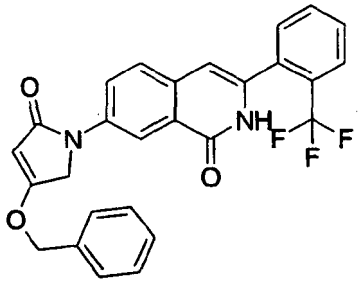
[0181] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.00-2.70 (4H, m), 3.43-3.52 (2H, m), 4.47 (1H, dd, J=7.9, 3.6Hz), 6.49 (1H, s), 7.62-7.93 (6H, m), 8.34 (1H, d, J=2.0Hz), 11.60 (1H, s)
ESI (LC-MS positive mode) m/z 403 (M+H).

[Example 1-8]

7-(4-Benzyloxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0182]

[Formula 31]



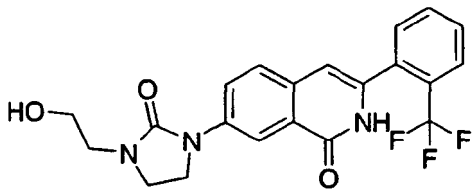
[0183] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 4.68 (2H, s), 5.14 (2H, s), 5.50 (1H, s), 6.45 (1H, s), 7.31-7.81 (9H, m), 7.87 (1H, d, J=7.3Hz), 8.13 (1H, dd, J=8.0, 2.3Hz), 8.46 (1H, d, J=2.3Hz), 11.55 (1H, s)
ESI (LC-MS positive mode) m/z 477 (M+H).

[Example 1-9]

7-[3-(2-Hydroxyethyl)-2-oxoimidazolidin-1-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0184]

[Formula 32]



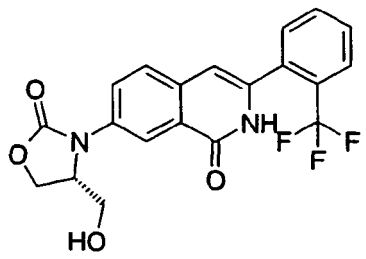
[0185] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 2.75-2.83 (1H, m), 3.50 (2H, t, J=5.0Hz), 3.62-3.72 (2H, m), 3.80-3.90 (2H, m), 3.96-4.03 (2H, m), 6.51 (1H, s), 7.52-7.73 (4H, m), 7.78-7.85 (2H, m), 8.46 (1H, brs), 8.69 (1H, dd, J=2.6, 8.8Hz)
ESI (LC-MS positive mode) m/z 418 (M+H).

[Example 1-10]

7-((R)-4-Hydroxymethyl-2-oxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0186]

[Formula 33]



[0187] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.41-3.65 (2H, m), 4.36 (1H, dd, J=4.3, 8.3Hz), 4.54 (1H, t, J=8.6Hz), 4.71-4.81 (1H, m), 5.12 (1H, t, J=5.3Hz), 6.49 (1H, s), 7.64 (1H, d, J=6.9Hz), 7.66-7.82 (3H, m), 7.88 (1H, d, J=7.9Hz), 7.95 (1H, dd, J=2.3, 8.6Hz), 8.34 (1H, d, J=2.3Hz), 11.63 (1H, s)

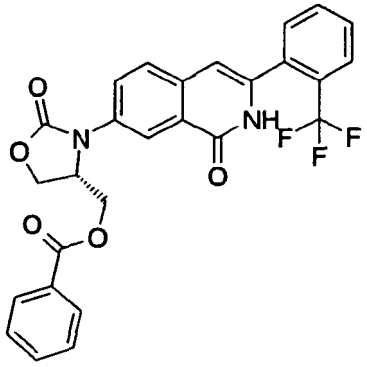
ESI (LC-MS positive mode) m/z 405 (M+H).

[Example 1-11]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-4-ylmethyl benzoate

[0188]

[Formula 34]



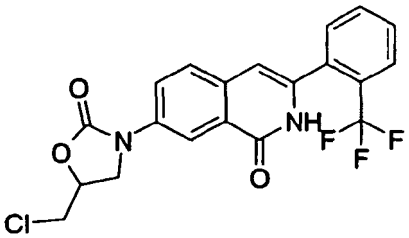
[0189] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 4.45-4.60 (3H, m), 4.72 (1H, t, J=8.9Hz), 5.00-5.10 (1H, m), 6.51 (1H, s), 7.43 (2H, t, J=7.9Hz), 7.52-7.75 (5H, m), 7.83 (1H, d, J=7.4Hz), 7.90-7.98 (2H, m), 8.20-8.28 (2H, m), 8.57 (1H, brs)
ESI (LC-MS positive mode) m/z 509 (M+H).

[Example 1-12]

7-(5-Chloromethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0190]

[Formula 35]



[0191] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 3.77-3.90 (2H, m), 4.10-4.20 (1H, m), 4.32 (1H, t, J=9.1Hz), 4.90-5.03 (1H, m), 6.54 (1H, s), 7.53-7.72 (4H, m), 7.83 (1H, d, J=7.6Hz), 7.95 (1H, d, J=2.3Hz), 8.58 (1H, dd, J=2.6, 8.9Hz), 8.75 (1H, brs)
ESI (LC-MS positive mode) m/z 423 (M+H).

[Example 1-13]

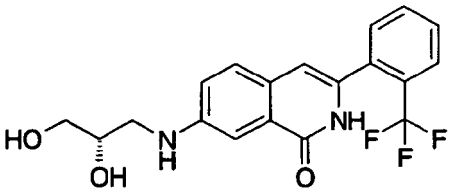
7-((S)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

7-((S)-2,3-Dihydroxypropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0192]

[Formula 36]



[0193] (R)-Glycidol (78.3 μl, 1.18 mmol) was added to an ethanol solution (4 ml) that contained the 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step C of Example 1-1, and the obtained mixture was stirred under heating to reflux for 3 days. Thereafter, the reaction solution was concentrated under reduced pressure, and the obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 20 : 1), so as to obtain 7-((S)-2,3-dihydroxypropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (281.9 mg; yield: 63%) in the form of a pale yellow amorphous substance.

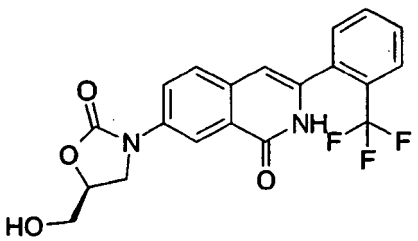
[0194] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.95-3.05 (1H, m), 3.23-3.46 (3H, m), 3.64-3.73 (1H, m), 4.66 (1H, t, J=5.3Hz), 4.84 (1H, d, J=5.0Hz), 6.03 (1H, t, J=5.4Hz), 6.29 (1H, s), 7.13 (1H, dd, J=2.0, 8.8Hz), 7.24 (1H, d, J=2.0Hz), 7.40 (1H, d, J=8.8Hz), 7.58 (1H, d, J=7.5Hz), 7.66 (1H, t, J=7.5Hz), 7.75 (1H, t, J=7.5Hz), 7.84 (1H, d, J=7.5Hz), 11.24 (1H, brs)
ESI (LC-MS positive mode) m/z 379 (M+H).

Step B

7-((S)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0195]

[Formula 37]



[0196] The 7-((S)-2,3-dihydroxypropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (281.9 mg, 0.745 mmol) obtained in step A was suspended in diethyl carbonate (2.93 ml), and thereafter, a 28% sodium methoxide-methanol solution (117 μl) was added thereto. The obtained mixture was stirred at 105°C for 13 hours. Thereafter, diethyl carbonate was distilled away under reduced pressure. The obtained residue was dissolved in methanol (15 ml), and the obtained solution was stirred under heating to reflux for 10 minutes. Thereafter, the reaction solution was concentrated, and a saturated ammonium chloride aqueous solution was then added to the residue, followed by extraction with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and was then concentrated. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 40 : 1 to 20 : 1), so as to obtain 7-((S)-

5-hydroxymethyl-2-oxooxazolidin-3-yl)3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (233.8 mg; yield: 78%).

[0197] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.55-3.79 (2H, m), 3.90-4.00 (1H, m), 4.22 (1H, t, J=8.9Hz), 4.70-4.83 (1H, m), 5.25 (1H, t, J=5.6Hz), 6.49 (1H, s), 7.60-7.90 (5H, m), 8.09 (1H, dd, J=2.3, 8.6Hz), 8.25 (1H, d, J=2.3Hz), 11.62 (1H, brs)

ESI (LC-MS positive mode) m/z 405 (M+H).

[Example 1-14]

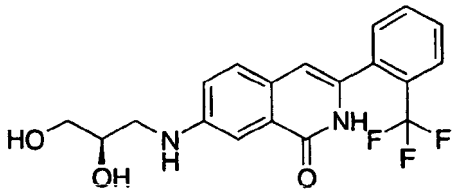
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

7-((R)-2,3-Dihydroxypropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0198]

[Formula 38]



[0199] The captioned compound was prepared by a reaction similar to step A of Example 1-13.

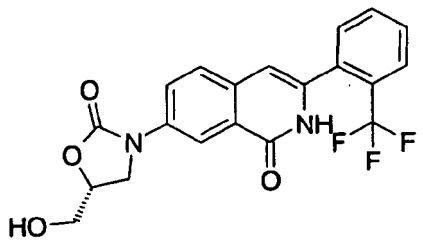
[0200] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.95-3.05 (1H, m), 3.20-3.46 (3H, m), 3.64-3.73 (1H, m), 4.60-4.70 (1H, m), 4.85 (1H, d, J=4.6Hz), 6.00-6.08 (1H, m), 6.29 (1H, s), 7.13 (1H, dd, J=2.0, 8.3Hz), 7.24 (1H, s), 7.40 (1H, d, J=8.3Hz), 7.58 (1H, d, J=7.3Hz), 7.66 (1H, t, J=7.3Hz), 7.75 (1H, t, J=7.3Hz), 7.84 (1H, d, J=7.3Hz), 11.24 (1H, brs)
ESI (LC-MS positive mode) m/z 379 (M+H).

Step B

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0201]

[Formula 39]



[0202] The captioned compound was prepared by a reaction similar to step B of Example 1-13.

[0203] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.55-3.79 (2H, m), 3.90-4.00 (1H, m), 4.21 (1H, t, J=8.7Hz), 4.70-4.83 (1H, m), 5.25 (1H, t, J=5.4Hz), 6.49 (1H, s), 7.60-7.90 (5H, m), 8.09 (1H, dd, J=2.3, 8.9Hz), 8.25 (1H, d, J=2.3Hz), 11.62 (1H, brs)

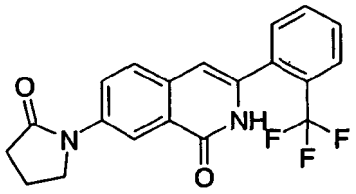
ESI (LC-MS positive mode) m/z 405 (M+H).

[Example 1-15]

7-(2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0204]

[Formula 40]



[0205] The 7-iodo-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (20.8 mg, 0.05 mmol) prepared in step D of Example 1-1, tris(dibenzylideneacetone)dipalladium (2.2 mg, 0.0025 mmol), 9,9-dimethyl-4,5-bis(diphenylphosphino)xanthene (4.2 mg, 0.0075 mmol), cesium carbonate (22.8 mg, 0.07 mmol), and 2-pyrrolidone (4.6 μl) were suspended in 1,4-dixane (0.5 ml), and the suspension was then stirred under heating to reflux overnight. Thereafter, the reaction solution was cooled to a room temperature, and a saturated ammonium chloride aqueous solution was then added thereto, followed by extraction with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and the solvent was then distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 2 : 1 to 5 : 1), so as to obtain 7-(2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (15.3 mg; yield: 82%) in the form of a colorless solid.

[0206] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 2.23 (2H, quintet, J=7.5Hz), 2.68 (2H, t, J=7.5Hz), 4.01 (2H, t, J=7.5Hz), 6.52 (1H, s), 7.53-7.71 (4H, m), 7.82 (1H, d, J=7.3Hz), 8.05 (1H, d, J=2.3Hz), 8.65 (1H, dd, J=2.3, 8.6Hz), 8.76 (1H, brs)
ESI (LC-MS positive mode) m/z 373 (M+H).

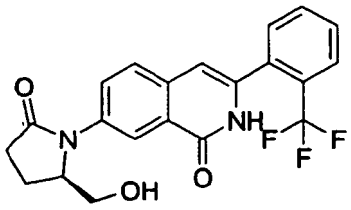
[0207] The following compounds (Examples 1-16 and 1-17) were synthesized by a reaction similar to that of Example 1-15.

[Example 1-16]

7-((R)-2-Hydroxymethyl-5-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0208]

[Formula 41]



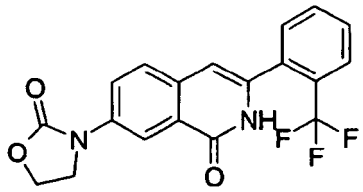
[0209] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 2.20-2.41 (2H, m), 2.52-2.64 (1H, m), 2.73-2.86 (1H, m), 3.70-3.90 (2H, m), 4.49-4.53 (1H, m), 6.53 (1H, s), 7.53-7.70 (4H, m), 7.80-7.83 (1H, m), 8.21 (1H, s), 8.25 (1H, d, J=2.31Hz), 8.72 (1H, brs)
EI-MS m/z 402 (M+).

[Example 1-17]

7-(2-Oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0210]

[Formula 42]



[0211] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 4.21 (2H, t, J=8.0Hz), 4.57 (2H, t, J=8.0Hz), 6.54 (1H, s), 7.55-7.75 (4H, m), 7.83 (1H, d, J=7.3Hz), 7.90-8.00 (1H, m), 8.60 (1H, dd, J=2.5, 8.7Hz), 8.73 (1H, brs)
ESI (LC-MS positive mode) m/z 375 (M+H).

[Example 1-18]

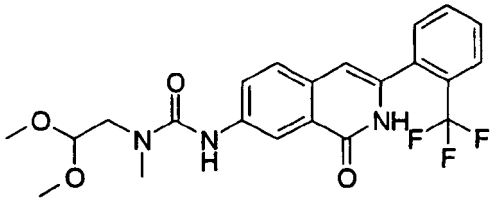
7-(3-Methyl-2-oxo-2,3-dihydroimidazol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

1-(2,2-Dimethoxyethyl)-1-methyl-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]urea

[0212]

[Formula 43]



[0213] The 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (30.4 mg, 0.1 mmol) obtained in step C of Example 1-1 was dissolved in a mixed solvent (0.5 ml) of methylene chloride and DMF (1 : 1). Thereafter, pyridine (16.2 μl, 0.2 mmol) and 4-nitrophenyl chloroformate (24.2 mg, 0.12 mmol) were added thereto under cooling on ice. The obtained mixture was then stirred at a room temperature for 2 hours. Thereafter, 2,2-dimethoxy-N-methylethylamine (15.4 μl, 0.12 mmol) was added to the reaction solution, and the obtained mixture was then stirred at a room temperature overnight. Thereafter, water was added to the reaction solution, followed by extraction with ethyl acetate. The extract was washed with a saturated saline solution, and then dried over anhydrous sodium sulfate, followed by concentration. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 5 : 1), so as to obtain 1-(2,2-dimethoxyethyl)-1-methyl-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]urea (17.5 mg; yield: 39%) in the form of a colorless amorphous substance.

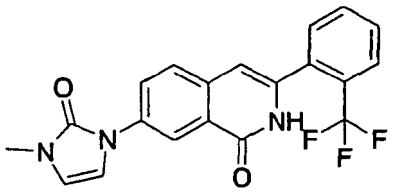
[0214] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.08 (3H, s), 3.45-3.54 (8H, m), 4.55 (1H, t, J=5.1Hz), 6.48 (1H, s), 7.50-7.70 (4H, m), 7.78-7.83 (1H, m), 7.98-8.02 (1H, m), 8.11 (1H, brs), 8.22 (1H, dd, J=2.3, 8.6Hz), 8.71 (1H, brs)
ESI (LC-MS positive mode) m/z 450 (M+H).

Step B

7-(3-Methyl-2-oxo-2,3-dihydroimidazol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0215]

[Formula 44]



[0216] The 1-(2,2-dimethoxyethyl)-1-methyl-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]urea (17.5 mg, 0.0389 mmol) obtained in step A was dissolved in formic acid (0.2 ml). The obtained solution was stirred at a room temperature overnight. Thereafter, formic acid was distilled away under reduced pressure, and the obtained residue was then dissolved in methylene chloride. The obtained solution was washed with a saturated sodium bicarbonate aqueous solution, and was then dried over anhydrous sodium sulfate, followed by concentration. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 4 : 1 to 1 : 0), so as to obtain 7-(3-methyl-2-oxo-2,3-dihydroimidazol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (10.9 mg; yield: 73%) in the form of a colorless solid.

[0217] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.23 (3H, s), 6.52 (1H, s), 6.80 (1H, d, J=3.3Hz), 7.20 (1H, d, J=3.3Hz), 7.61-7.84 (4H, m), 7.85-7.93 (1H, m), 8.09 (1H, dd, J=2.6, 8.6Hz), 8.56 (1H, d, J=2.3Hz), 11.66 (1H, brs)
ESI (LC-MS positive mode) m/z 386 (M+H).

[Example 1-19]

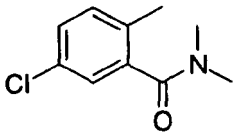
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one

Step A

5-Chloro-2,N,N-trimethylbenzamide

[0218]

[Formula 45]



[0219] Using 5-chloro-2-methylbenzoic acid as a staring material, the captioned compound was synthesized by a method similar to step A of Example 1-1.

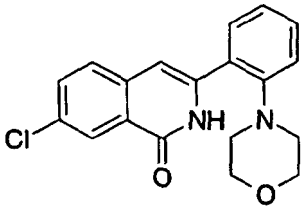
[0220] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 2.25 (3H, s), 2.85 (3H, s), 3.12 (3H, s), 7.15 (1H, d, J=8.4Hz)7.16 (1H, d, J=2.3Hz), 7.24 (1H, dd, J=2.3, 8.4Hz)
ESI (LC-MS positive mode) m/z 198 (M+H).

Step B

7-Chloro-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one

[0221]

[Formula 46]



[0222] A 1.8 M lithium diisopropylamide THF solution (5.39 ml, 9.69 mmol) was diluted with THF (10 ml). To the diluted solution, a solution obtained by dissolving the 5-chloro-2,N,N-trimethylbenzamide (383 mg, 1.94 mmol) prepared in step A in THF (5 ml) was added dropwise at -78°C. A solution obtained by dissolving 2-(4-morpholino)benzonitrile (438 mg, 2.33 mmol) in THF (5 ml) was further added to the mixture. The obtained mixture was stirred at -78°C for 30 minutes. Thereafter, a saturated ammonium chloride aqueous solution was added to the reaction solution, followed by extraction with ethyl acetate. The extract was washed with a saturated saline solution, and was then dried over anhydrous sodium sulfate, followed by concentration under reduced pressure. The obtained yellow oil product was crystallized from hexane/ethyl acetate (3 : 1), so as to obtain 7-chloro-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one (575 mg; yield: 87%) in the form of a colorless crystal.

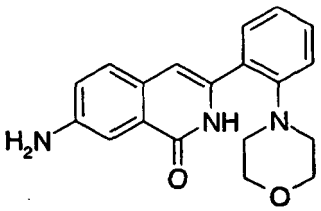
[0223] ^{1}H-NMR (400MHz, $CDCl_3$) δ (ppm): 2.97-3.00 (4H, m), 3.87-3.90 (4H, m), 6.71 (1H, s), 7.19 (2H, m), 7.43 (1H, dt, J=1.2, 7.6Hz), 7.53 (1H, d, J=8.4Hz), 7.59-7.62 (2H, m), 8.39 (1H, s), 11.10 (1H, brs)
ESI (LC-MS positive mode) m/z 341 (M+H).

Step C

7-Amino-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one

[0224]

[Formula 47]



[0225] Using the 7-chloro-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one obtained in step B as a starting material, the captioned compound was prepared by a method similar to step C of Example 1-1.

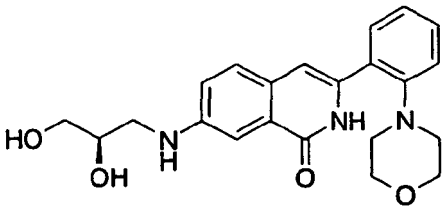
[0226] ^{1}H-NMR (400MHz, $CDCl_3$) δ (ppm): 2.95-2.99 (4H, m), 3.84-3.90 (4H, m), 4.00 (2H, brs), 6.67 (1H, s), 7.05 (1H, dd, J=2.0, 7.1Hz), 7.10-7.20 (2H, m), 7.35-7.45 (2H, m), 7.55-7.59 (1H, m), 7.64 (1H, d, J=2.4Hz), 10.86 (1H, brs)
ESI (LC-MS positive mode) m/z 322 (M+H).

Step D

7-((R)-2,3-Dihydroxypropylamino)-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one

[0227]

[Formula 48]



[0228] Using the 7-amino-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one obtained in step C as a starting material, the captioned compound was prepared by a reaction similar to step A of Example 1-13.

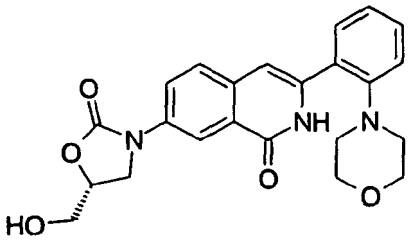
[0229] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 2.96-2.99 (4H, m), 3.34 (1H, dd, J=13.0, 7.5Hz), 3.48 (1H, dd, J=13.0, 5.0Hz), 3.71 (1H, dd, J=11.5, 6.0Hz), 3.81-3.90 (5H, m), 4.07-4.13 (1H, m), 6.69 (1H, d, J=1.5Hz), 7.06 (1H, dd, J=8.5, 2.5Hz), 7.12-7.20 (2H, m), 7.37 (1H, ddd, J=8.0, 8.0, 1.5Hz), 7.43 (1H, d, J=8.5Hz), 7.55-7.59 (2H, m), 10.97 (1H, brs) ESI (LC-MS positive mode) m/z 396 (M+H).

Step E

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one

[0230]

[Formula 49]



[0231] Using the 7-((R)-2,3-dihydroxypropylamino)-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one obtained in step D as a starting material, the captioned compound was prepared by a reaction similar to step B of Example 1-13.

[0232] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.81-2.89 (4H, m), 3.57-3.76 (6H, m), 3.96 (1H, dd, J=8.5, 6.0Hz), 4.22 (1H, t, J=8.5Hz), 4.70-4.79 (1H, m), 5.25 (1H, t, J=5.5Hz), 6.82 (1H, s), 7.12-7.17 (2H, m), 7.42 (1H, ddd, J=8.0, 8.0, 2.0Hz), 7.52 (1H, dd, J=8.0, 2.0Hz), 7.75 (1H, d, J=9.0Hz), 8.08 (1H, dd, J=9.0, 2.5Hz), 8.22 (1H, d, J=2.5Hz), 11.49 (1H, s) ESI (LC-MS positive mode) m/z 422 (M+H).

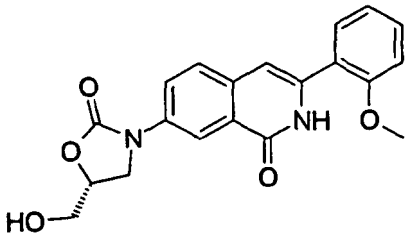
[0233] The following compounds (Examples 1-20 to 1-28) were synthesized by a method similar to that of Example 1-19.

[Example 1-20]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methoxyphenyl)-2H-isoquinolin-1-one

[0234]

[Formula 50]



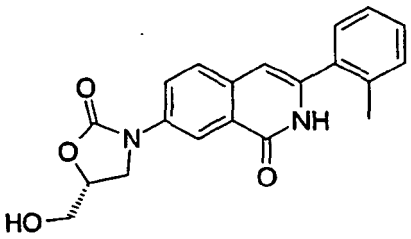
[0235] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.57-3.76 (2H, m), 3.82 (3H, s), 3.95 (1H, dd, J=9.0, 6.0Hz), 4.21 (1H, t, J=9.0Hz), 4.71-4.79 (1H, m), 5.25 (1H, t, J=5.5Hz), 6.62 (1H, s), 7.05 (1H, t, J=7.5Hz), 7.14 (1H, d, J=8.0Hz), 7.42-7.48 (2H, m), 7.72 (1H, d, J=9.0Hz), 8.07 (1H, dd, J=9.0, 2.5Hz), 8.22 (1H, d, J=2.5Hz), 11.26 (1H, brs)
ESI (LC-MS positive mode) m/z 367 (M+H).

[Example 1-21]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-o-tolyl-2H-isoquinolin-1-one

[0236]

[Formula 51]



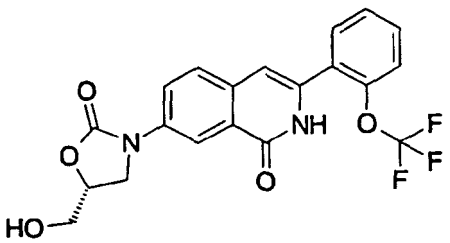
[0237] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.31 (3H, s), 3.57-3.76 (2H, m), 3.96 (1H, dd, J=9.0, 6.5Hz), 4.21 (1H, t, J=9.0Hz), 4.71-4.79 (1H, m), 5.25 (1H, t, J=5.5Hz), 6.49 (1H, s), 7.26-7.40 (4H, m), 7.72 (1H, d, J=9.0Hz), 8.08 (1H, dd, J=9.0, 2.5Hz), 8.23 (1H, d, J=2.5Hz), 11.45 (1H, s)
ESI (LC-MS positive mode) m/z 351 (M+H).

[Example 1-22]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethoxyphenyl)-2H-isoquinolin-1-one

[0238]

[Formula 52]



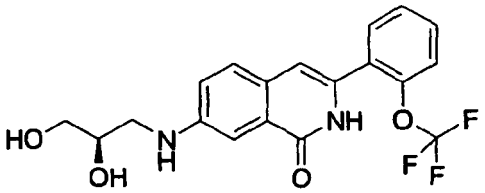
[0239] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.57-3.76 (2H, m), 3.96 (1H, dd, J=9.0, 6.5Hz), 4.22 (1H, t, J=9.0Hz), 4.71-4.80 (1H, m), 5.26 (1H, t, J=5.5Hz), 6.66 (1H, s), 7.50-7.70 (4H, m), 7.76 (1H, d, J=9.0Hz), 8.09 (1H, dd, J=9.0, 2.5Hz), 8.25 (1H, d, J=2.5Hz), 11.61 (1H, brs)
ESI (LC-MS positive mode) m/z 421 (M+H).

[0240] Moreover, an intermediate of the present compound, 7-((R)-2,3-hydroxypropylamino)-3-(2-trifluoromethoxyphenyl)-2H-isoquinolin-1-one can also be synthesized by the method described below, using the 7-chloro-3-(2-trifluoromethoxyphenyl)-2H-isoquinolin-1-one obtained by a method similar to step D of Example 1-19 as a raw material.

7-((R)-2,3-Hydroxypropylamino)-3-(2-trifluoromethoxyphenyl)-2H-isoquinolin-1-one

[0241]

[Formula 53]



[0242] 7-Chloro-3-(2-trifluoromethoxyphenyl)-2H-isoquinolin-1-one (340 mg, 1.00 mmol), (R)-(+)-3-amino-1,2-propanediol (273 mg, 3.00 mmol), 2-dicyclohexylphosphino-2'-(N,N-dimethylamino)biphenyl (47.2 mg, 0.12 mmol), and tris (dibenzylideneacetone)dipalladium (45.8 mg, 0.05 mmol) were dissolved in THF (5 ml). Thereafter, to the obtained solution, a 1 M lithium bis(trimethylsilyl)amide THF solution (7 ml, 7.00 mmol) was added. The obtained mixture was stirred under heating to reflux for 14 hours. The reaction solution was cooled to a room temperature, and a saturated ammonium chloride aqueous solution was then added thereto, followed by extraction with ethyl acetate. The extract was washed with a saturated saline solution, and was then dried over anhydrous sodium sulfate. The residue obtained by concentration of the extract was purified by silica gel column chromatography (dichloromethane : methanol = 50 : 1 to 20 : 1), so as to obtain 7-((R)-2,3-hydroxypropylamino)-3-(2-trifluoromethoxyphenyl)-2H-isoquinolin-1-one (83.4 mg, 21%) in the form of a Mars yellow solid.

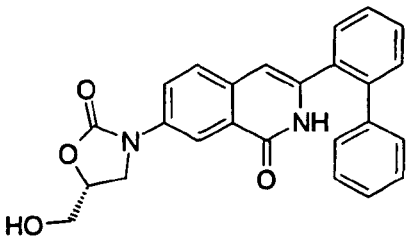
[0243] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 3.30 (1H, dd, J=13.0, 7.5Hz), 3.45 (1H, dd, J=13.0, 4.0Hz), 3.69 (1H, dd, J=11.0, 6.0Hz), 3.81 (1H, dd, J=11.0, 3.5Hz), 4.03-4.12 (1H, m), 6.61 (1H, s), 7.03 (1H, dd, J=8.5, 2.5Hz), 7.34-7.45 (4H, m), 7.52 (1H, d, J=2.0Hz), 7.55 (1H, dd, J=7.5, 2.0Hz), 9.03 (1H, brs)
ESI (LC-MS positive mode) m/z 395 (M+H).

[Example 1-23]

3-Biphenyl-2-yl-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0244]

[Formula 54]



[0245] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.54-3.72 (2H, m), 3.92 (1H, dd, J=9.0, 6.5Hz), 4.17 (1H, t, J=9.0Hz), 4.68-4.78 (1H, m), 5.23 (1H, t, J=5.5Hz), 6.31 (1H, s), 7.23-7.30 (5H, m), 7.45-7.60 (5H, m), 8.01 (1H, dd, J=8.5, 2.0Hz), 8.13 (1H, d, J=2.0Hz), 11.26 (1H, s)

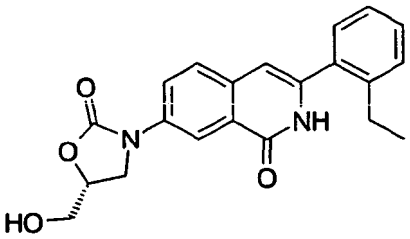
ESI (LC-MS positive mode) m/z 413 (M+H).

[Example 1-24]

3-(2-Ethylphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0246]

[Formula 55]



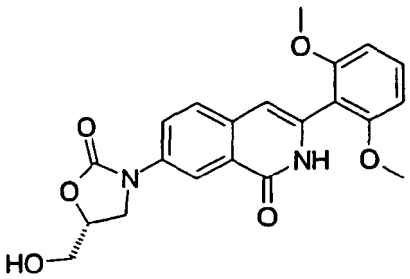
[0247] ^{1}H-NMR (270MHz, CD_3OD) δ (ppm): 1.15 (3H, t, J=7.5Hz), 2.70 (2H, q, J=7.5Hz), 3.74 (1H, dd, J=12.5, 4.0Hz), 3.90 (1H, dd, J=12.5, 3.0Hz), 4.08 (1H, dd, J=9.0, 6.5Hz), 4.27 (1H, t, J=9.0Hz), 4.77-4.84 (1H., m), 6.59 (1H, s), 7.26-7.45 (4H, m), 7.72 (1H, d, J=9.0Hz), 8.25 (1H, d, J=2.5Hz), 8.29 (1H, dd, J=9.0, 2.5Hz)
ESI (LC-MS positive mode) m/z 365 (M+H).

[Example 1-25]

3-(2,6-Dimethoxyphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0248]

[Formula 56]



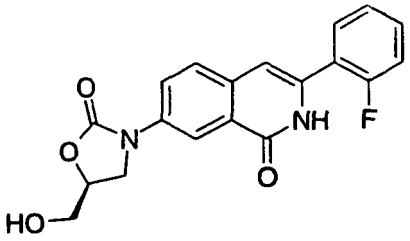
[0249] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.57-3.77 (2H, m), 3.72 (6H, s), 3.95 (1H, dd, J=9.0, 6.5Hz), 4.21 (1H, t, J=9.0Hz), 4.70-4.79 (1H, m), 5.26 (1H, t, J=5.5Hz), 6.39 (1H, s), 6.75 (2H, d, J=8.5Hz), 7.39 (1H, t, J=8.5Hz), 7.66 (1H, d, J=8.5Hz), 8.06 (1H, dd, J=8.5, 2.5Hz), 8.20 (1H, d, J=2.5Hz), 11.20 (1H, s)
ESI (LC-MS positive mode) m/z 397 (M+H).

[Example 1-26]

3-(2-Fluorophenyl)-7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0250]

[Formula 57]



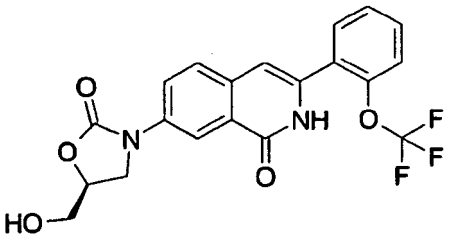
[0251] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.57-3.75 (2H, m), 3.96 (1H, dd, J=9.0, 6.5Hz), 4.22 (1H, t, J=9.0Hz), 4.70-4.80 (1H, m), 6.75 (1H, s), 7.30-7.39 (2H, m), 7.48-7.56 (1H, m), 7.66 (1H, t, J=8.0Hz), 7.76 (1H, d, J=9.0Hz), 8.09 (1H, d, J=9.0Hz), 8.25 (1H, s)
ESI (LC-MS positive mode) m/z 355 (M+H).

[Example 1-27]

7-((S)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethoxyphenyl)-2H-isoquinolin-1-one

[0252]

[Formula 58]



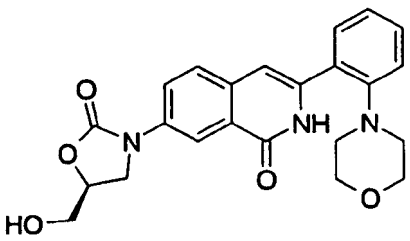
[0253] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.57-3.76 (2H, m), 3.96 (1H, dd, J=9.0, 6.5Hz), 4.22 (1H, t, J=9.0Hz), 4.72-4.80 (1H, m), 5.24 (1H, t, J=5.5Hz), 6.66 (1H, s), 7.50-7.70 (4H, m), 7.77 (1H, d, J=9.0Hz), 8.10 (1H, dd, J=9.0, 2.5Hz), 8.26 (1H, d, J=2.5Hz), 11.60 (1H, s)
ESI (LC-MS positive mode) m/z 421 (M+H).

[Example 1-28]

7-((S)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one

[0254]

[Formula 59]



[0255] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.82-2.88 (4H, m), 3.59-3.76 (6H, m), 3.96 (1H, dd, J=6.1, 8.8Hz), 4.22 (1H, t, J=9.0Hz), 4.70-4.79 (1H, m), 5.25 (1H, t, J=5.7Hz), 6.82 (1H, s), 7.12-7.18 (2H, m), 7.42 (1H, t, J=7.7Hz), 7.51 (1H, dd, J=1.7, 7.7Hz), 7.75 (1H, d, J=8.9Hz), 8.07 (1H, dd, J=2.5, 8.9Hz), 8.22 (1H, d, J=2.5Hz), 11.49 (1H, brs)
ESI (LC-MS positive mode) m/z 422 (M+H).

[Example 1-29]

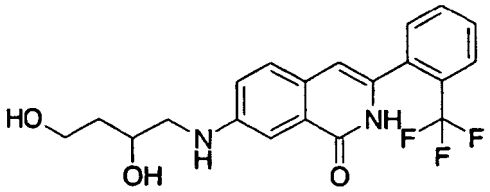
7-[5-(2-Hydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

7-(2,4-Dihydroxybutylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0256]

[Formula 60]



[0257] The captioned compound was prepared by a reaction similar to step A of Example 1-13, using 3,4-epoxy-1-butanol prepared in accordance with a known method described in publications (for example, Journal of Organic Chemistry (1981), 46(5), pp. 930-9).

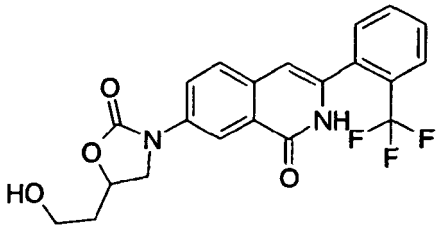
[0258] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 1.45-1.60 (1H, m), 1.63-1.76 (1H, m), 3.00-3.18 (2H, m), 3.49-3.61 (2H, m), 3.73-3.83 (1H, m), 4.40 (1H, t, J=5.0Hz), 4.72 (1H, d, J=5.3Hz), 6.00-6.10 (1H, m), 6.29 (1H, s), 7.12 (1H, dd, J=2.5, 8.6Hz), 7.23 (1H, d, J=2.1Hz), 7.40 (1H, d, J=8.9Hz), 7.53-7.86 (4H, m), 11.24 (1H, brs)
ESI (LC-MS positive mode) m/z 393 (M+H).

Step B

7-[5-(2-Hydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0259]

[Formula 61]



[0260] Using the 7-(2,4-dihydroxybutylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step A as a starting material, the captioned compound was synthesized by a reaction similar to step B of Example 1-13.

[0261] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 1.80-2.06 (2H, m), 3.53-3.65 (2H, m), 3.92 (1H, dd, J=7.3, 8.9Hz), 4.29 (1H, t, J=8.7Hz), 4.73 (1H, t, J=5.0Hz), 4.80-4.95 (1H, m), 6.49 (1H, s), 6.60-7.93 (5H, m), 8.09 (1H, dd, J=2.6, 8.7Hz), 8.23 (1H, d, J=2.6Hz), 11.62 (1H, brs)
ESI (LC-MS positive mode) m/z 419 (M+H).

[Example 1-30]

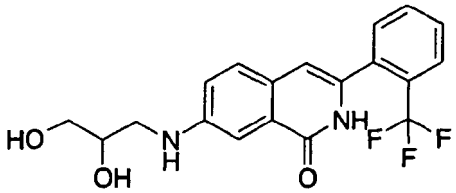
7-(5-Azidomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

7-(2,3-Dihydroxypropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0262]

[Formula 62]



[0263] Using the 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step C of Example 1-1 as a raw material, the captioned compound was synthesized by a method similar to step A of Example 1-13.

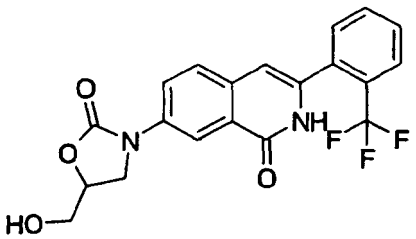
[0264] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.95-3.05 (1H, m), 3.20-3.46 (3H, m), 3.64-3.73 (1H, m), 4.65 (1H, t, J=5.6Hz), 4.84 (1H, d, J=4.9Hz), 6.00-6.08 (1H, m), 6.30 (1H, s), 7.13 (1H, dd, J=2.5, 8.6Hz), 7.24 (1H, d, J=2.5Hz), 7.40 (1H, d, J=8.6Hz), 7.58 (1H, d, J=7.4Hz), 7.60-7.80 (2H, m), 7.84 (1H, d, J=7.9Hz), 11.24 (1H, brs)
ESI (LC-MS positive mode) m/z 379 (M+H).

Step B

7-(5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0265]

[Formula 63]



[0266] Using the 7-(2,3-dihydroxypropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step A as a raw material, the captioned compound was synthesized by a method similar to step B of Example 1-13.

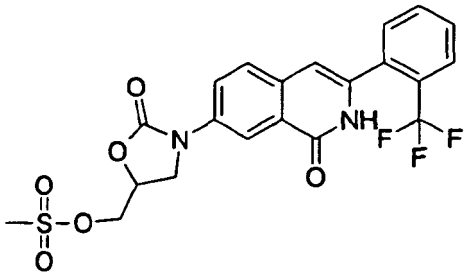
[0267] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 2.65 (1H, t, J=6.4Hz), 3.76-3.87 (1H, m), 3.98-4.01 (1H, m), 4.12-4.24 (2H, m), 5.78-5.90 (1H, m), 6.52 (1H, s), 7.52-7.73 (4H, m), 7.78-7.85 (1H, m), 7.96 (1H, d, J=2.5Hz), 8.55 (1H, dd, J=2.6, 8.8Hz), 8.64 (1H, brs)
ESI (LC-MS positive mode) m/z 405 (M+H).

Step C

2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl methansulfonate

[0268]

[Formula 64]



[0269] Triethylamine (128μl) and methanesulfonyl chloride (71 μl) were added to a solution obtained by dissolving the 7-(5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (186.7 mg, 0.462 mmol) obtained in step B in methylene chloride (2.3 ml), under cooling on ice. The obtained mixture was stirred for 30 minutes. Thereafter, a saturated ammonium chloride aqueous solution was added to the reaction solution, followed by extraction with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and was then concentrated. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 2 : 1, and then methylene chloride : methanol = 30 : 1), so as to obtain 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl methanesulfonate (169.1 mg; yield: 76%) in the form of a colorless foaming substance.

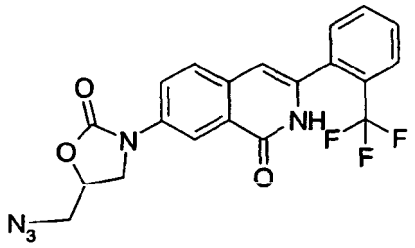
[0270] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 3.13 (3H, s), 4.11 (1H, dd, J=6.1, 9.4Hz), 4.33 (1H, t, J=9.2Hz), 4.48 (1H, dd, J=4.4, 11.6Hz), 4.55 (1H, dd, J=3.8, 11.6Hz), 4.96-5.07 (1H, m), 6.53 (1H, s), 7.53-7.72 (4H, m), 7.80-7.86 (1H, m), 7.98 (1H, d, J=2.3Hz), 8.53 (1H, dd, J=2.4, 8.8Hz), 8.60 (1H, brs)
ESI (LC-MS positive mode) m/z 483 (M+H).

Step D

7-(5-Azidomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0271]

[Formula 65]



[0272] The 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl methanesulfonate (169.1 mg, 0.351 mmol) obtained in step C was dissolved in N,N-dimethylformamide (1.3 ml). Thereafter, sodium azide (96.2 mg, 1.33 mmol) was added to the obtained solution, and the mixture was then stirred at 65°C for 4 hours. Thereafter, water was added to the reaction solution, followed by extraction with ethyl acetate. The extract was washed with a saturated saline solution, and was then dried over anhydrous sodium sulfate, followed by concentration under reduced pressure. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 2 : 1 to 3 : 1), so as to obtain 7-(5-azidomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (139.6 mg; yield: 93%) in the form of a colorless solid.

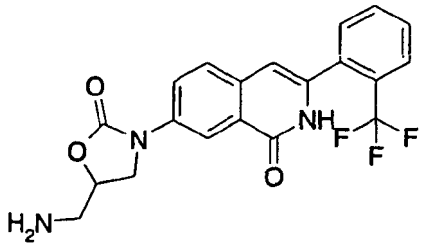
[0273] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 3.64 (1H, dd, J=4.5, 13.3Hz), 3.76 (1H, dd, J=4.4, 13.3Hz), 4.03 (1H, dd, J=6.3, 9.2Hz), 4.25 (1H, t, J=9.1Hz), 4.82-4.93 (1H, m), 6.53 (1H, s), 7.52-7.72 (4H, m), 7.83 (1H, dd, J=1.5, 7.4Hz), 7.94 (1H, d, J=2.6Hz), 8.59 (1H, dd, J=2.6, 8.9Hz), 8.64 (1H, brs)
ESI (LC-MS positive mode) m/z 430 (M+H).

[Example 1-31]

7-(5-Aminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0274]

[Formula 66]



[0275] The 7-(5-azidomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (50.0 mg, 0.116 mmol) obtained in Example 1-30 was dissolved in tetrahydrofuran (387 μl). Thereafter, triphenylphosphine (33.6 mg, 0.128 mmol) and water (20.9 μl) were added to the obtained solution, and the obtained mixture was then stirred at 40°C for 14 hours. Thereafter, 1 N hydrochloric acid (0.5 ml) was added to the reaction solution, followed by washing with ethyl acetate. A 1 N sodium hydroxide aqueous solution (1.0 ml) was added to the residual water layer, followed by extraction with ethyl acetate. The extract was washed with a saturated saline solution, and was then dried over anhydrous sodium sulfate, followed by concentration under reduced pressure. The obtained residue was purified by column chromatography using Bond Elut (registered trademark) NH2 (Varian; 1 g), so as to obtain 7-(5-aminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (45.8 mg; yield: 98%) in the form of a colorless foaming substance.

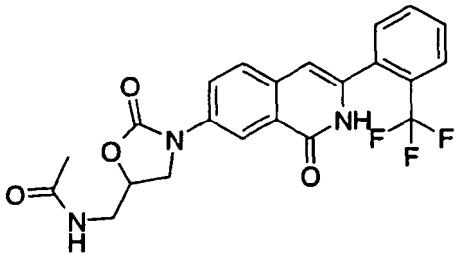
[0276] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm) : 1.59 (3H, brs), 3.01 (1H, dd, J=5.6, 13.7Hz), 3.16 (1H, dd, J=4.0, 13.7Hz), 4.04 (1H, dd, J=6.8, 8.9Hz), 4.19 (1H, t, J=8.9Hz), 4.69-4.80 (1H, m), 6.49 (1H, s), 7.52-7.72 (4H, m), 7.77-7.82 (1H, m), 7.90-7.92 (1H, m), 8.56 (1H, dd, J=2.5, 8.9Hz)
ESI (LC-MS positive mode) m/z 404 (M+H).

[Example 1-32]

N-{2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}acetamide

[0277]

[Formula 67]



[0278] The 7-(5-aminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (15.3 mg, 0.038 mmol) obtained in Example 1-31 was dissolved in pyridine (380 μl). Thereafter, acetyl chloride (3.2 μl) was added to the obtained solution, and the obtained mixture was stirred at a room temperature for 2 hours. Thereafter, 1 N hydrochloric acid was added to the reaction solution under cooling on ice, followed by extraction with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and the solvent was then distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 20 : 1), so as to obtain N-{2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}acetamide (12.1 mg; yield: 71%) in the form of a colorless amorphous substance.

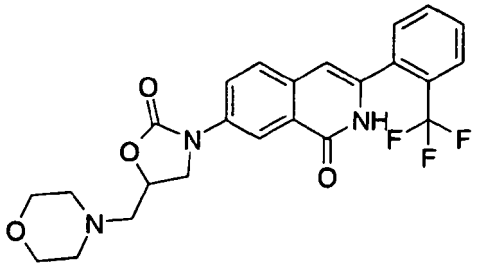
[0279] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm) : 1.85 (3H, s), 3.43-3.52 (2H, m), 3.89 (1H, dd, J=6.5, 9.1Hz), 4.24 (1H, t, J=9.0Hz), 4.71-4.82 (1H, m), 6.49 (1H, s), 7.60-7.90 (5H, m), 8.08 (1H, dd, J=2.5, 8.7Hz), 8.20 (1H, d, J=2.5Hz), 8.23-8.32 (1H, m), 11.62 (1H, brs)
ESI (LC-MS positive mode) m/z 446 (M+H).

[Example 1-33]

7-(5-Morpholin-4-ylmethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0280]

[Formula 68]



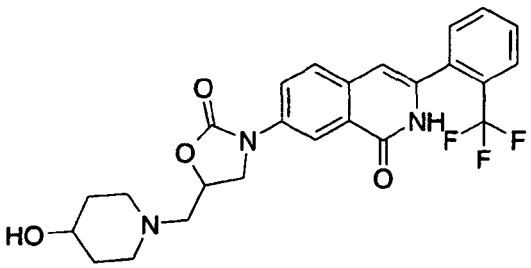
[0281] The 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl methanesulfonate (20.0 mg, 0.0415 mmol) obtained in step C of Example 1-30 was dissolved in acetonitrile (0.1 ml). Thereafter, morpholine (3.6 μl) was added to the obtained solution, and the obtained mixture was stirred under heating to reflux for 22 hours. Thereafter, the reaction solution was cooled to a room temperature, and it was then concentrated under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 40 : 1), so as to obtain 7-(5-morpholin-4-ylmethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (9.7 mg; yield: 49%) in the form of a colorless amorphous substance.
[0282] ^{1}H-NMR (270MHz, CD_3OD) δ (ppm): 2.55-2.70 (4H, m), 2.80 (2H, d, J=5.6Hz), 3.70 (4H, t, J=4.6Hz), 3.99 (1H, dd, J=7.0, 8.9Hz), 4.30 (1H, t, J=8.9Hz), 4.89-5.01 (1H, m), 6.61 (1H, s), 7.59-7.79 (4H, m), 7.83-7.89 (1H, m), 8.24 (1H, d, J=2.5Hz), 8.29 (1H, dd, J=2.5, 8.7Hz)
ESI (LC-MS positive mode) m/z 474 (M+H).

[Example 1-34]

7-[5-(4-Hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0283]

[Formula 69]



[0284] Using the 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl methanesulfonate obtained in step C of Example 1-30 as a raw material, the captioned compound was synthesized by a method similar to that of Example 1-33.
[0285] ^{1}H-NMR (270MHz, CD_3OD) δ (ppm): 1.50-1.65 (2H, m), 1.81-1.92 (2H, m), 2.30-2.45 (2H, m), 2.78-2.82 (2H,

m), 2.87-3.00 (2H, m), 3.57-3.67 (1H, m), 3.95 (1H, dd, J=7.2, 8.9Hz), 4.30 (1H, t, J=8.9Hz), 4.85-5.00 (1H, m), 6.61 (1H, s), 7.60-7.80 (4H, m), 7.85-7.90 (1H, m), 8.24 (1H, d, J=2.4Hz), 8.29 (1H, dd, J=2.4, 8.7Hz)
ESI (LC-MS positive mode) m/z 488 (M+H).

[Example 1-35]

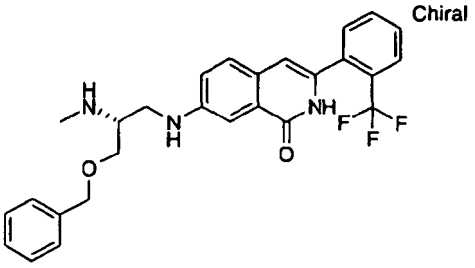
7-((R)-4-Benzyloxymethyl-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

7-((R)-3-Benzyloxy-2-methylaminopropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0286]

[Formula 70]



[0287] BOP Reagent (1.2 g, 2.8 mmol), N,N-diisopropylethylamine (0.5 ml, 3 mmol), and N,O-dimethylhydroxyamine hydrochloride (273 mg, 2.8 mmol) were added to a dichloromethane solution that contained Fmoc-MeSer(Bzl)-OH (1 g, 2.3 mmol). The obtained mixture was stirred at a room temperature for 1 day. Thereafter, the reaction solution was successively washed with 1 N hydrochloric acid, with a saturated sodium bicarbonate aqueous solution, and with a saturated saline solution. Thereafter, the resultant was dried over anhydrous sodium sulfate, and the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 1 : 2). 238 mg out of the obtained oil product (850 mg) was dissolved in THF (2 ml), and the obtained solution was added dropwise at -78°C to a THF solution (8 ml) that contained lithium aluminum hydride (10 mg, 0.25 mmol). The obtained mixture was stirred at -78°C for 1.5 hours. Thereafter, lithium aluminum hydride (10 mg, 0.25 mmol) was further added thereto, and the obtained mixture was stirred at -78°C for 30 minutes. Thereafter, a saturated ammonium chloride aqueous solution was added to the reaction solution at -78°C, and the temperature of the obtained mixture was then increased to a room temperature. The mixture was filtered through celite, and the filtrate was then extracted with dichloromethane. The extract was washed with a saturated saline solution, and was dried over anhydrous sodium sulfate, followed by concentration under reduced pressure. The generated oil product was dissolved in 5 ml of methanol without being purified. Thereafter, 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (100 mg, 0.33 mmol) and 1 ml of acetic acid were added thereto. Thereafter, sodium cyanoborohydride (135 mg, 2.1 mmol) was added to the mixture under cooling on ice, and the temperature of the obtained mixture was increased to a room temperature, followed by stirring for 3 hours. Thereafter, a saturated sodium bicarbonate aqueous solution was added to the reaction solution, and the mixture was then extracted with dichloromethane. The extract was dried over anhydrous sodium sulfate, and was then concentrated. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 1 : 2 to 2 : 1), so as to obtain a yellow foaming substance. This yellow foaming substance was dissolved in dichloromethane (5 ml), and piperidine (1 ml) was then added to the solution. The obtained mixture was stirred at a room temperature. Four hours later, the reaction solution was concentrated, and 1 N hydrochloric acid (2 ml) and methanol (2 ml) were then added thereto, followed by stirring at 40°C. Six hours later, the reaction solution was neutralized with a 1 N sodium hydroxide aqueous solution under cooling on ice. A saturated sodium bicarbonate aqueous solution was added to the resultant, and the mixture was then extracted with dichloromethane. The extract was dried over anhydrous sodium sulfate, and was then concentrated. The obtained residue was purified by amino TLC used for preparative separation (Fuji Silysia Chemical Ltd., PLC05; dichloromethane : methanol = 20 : 1), so as to obtain 7-((R)-3-benzyloxy-2-methylaminopropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (48 mg; yield: 31%) in the form of a yellow foaming substance.

[0288] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 2.43 (3H, s), 2.99-3.04 (1H, m), 3.18-3.27 (1H, m), 3.34-3.42 (1H, m),

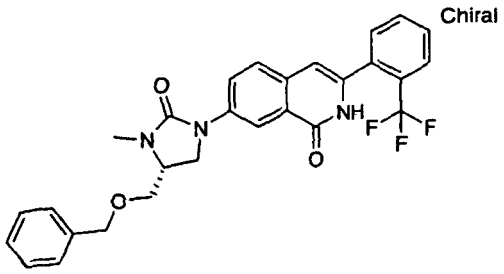
3.54-3.66 (2H, m), 4.55 (2H, s), 4.73 (1H, brt), 6.42 (1H, s), 7.01 (1H, dd, J=2.31, 8.24Hz), 7.31-7.39 (6H, m), 7.48 (1H, d, J=2.47Hz), 7.52-7.67 (3H, m), 7.80 (1H, d, J=6.76Hz)
ESI (LC-MS positive mode) m/z 482 (M+H).

Step B

7-((R)-4-Benzyloxymethyl-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0289]

[Formula 71]



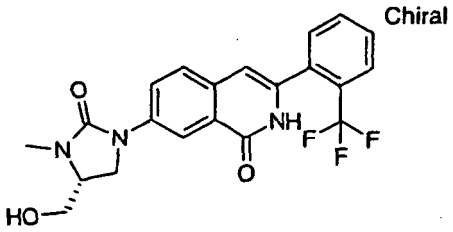
[0290] Bis(trichloromethyl) carbonate (4.5 mg, 0.015 mmol) was dissolved in dichloromethane (4 ml). Thereafter, to the thus obtained solution, a solution obtained by dissolving the 7-((R)-3-benzyloxy-2-methylaminopropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (20 mg, 0.04 mmol) prepared in step A and N,N-diisopropylethylamine (16 μl, 0.09 mmol) in dichloromethane (1 ml) was added dropwise under cooling on ice. After completion of the addition, the obtained mixture was stirred for 1 hour. Thereafter, water was added to the reaction solution, and the mixture was then extracted with dichloromethane. The extract was dried over anhydrous sodium sulfate, and was then concentrated. The obtained residue was purified by silica gel TLC used for preparative separation (dichloromethane : methanol = 20 : 1), so as to obtain 7-((R)-4-benzyloxymethyl-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (16 mg; yield: 77%) in the form of a white foaming substance.
[0291] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 2.95 (3H, s), 3.58-3.68 (2H, m), 3.70-3.77 (1H, m), 3.81-3.90 (1H, m), 4.01-4.08 (1H, m), 4.59 (2H, s), 6.50 (1H, s), 7.31-7.40 (5H, m), 7.54-7.69 (4H, m), 7.77-7.83 (2H, m), 8.50 (1H, brs), 8.80 (1H, dd, J=2.31, 8.90Hz)
ESI (LC-MS positive mode) m/z 508 (M+H).

[Example 1-36]

7-((R)-4-Hydroxymethyl-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0292]

[Formula 72]



[0293] The 7-((R)-4-benzyloxymethyl-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (13 mg, 0.025 mmol) prepared in Example 1-35 was dissolved in methanol (5 ml). Thereafter, 10% Pd-C (3 mg) was added to the obtained solution, and the obtained mixture was then stirred in a hydrogen atmosphere for 3 hours. The reaction solution was filtered through celite, and the filtrate was then concentrated. The obtained residue was purified by silica gel TLC used for preparative separation (dichloromethane : methanol = 20 : 1), so as to obtain 7-((R)-4-hy-

droxymethyl-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (10.9 mg, quantitative) in the form of a white solid.

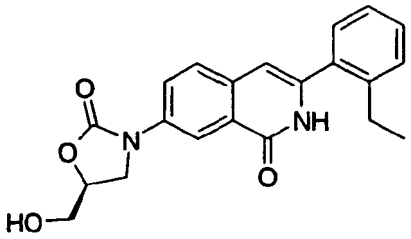
[0294] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 2.97 (3H, s), 3.49 (1H, brs), 3.74-3.81 (2H, m), 3.88-3.93 (2H, m), 4.01-4.08 (1H, m), 6.50 (1H, s), 7.52-7.70 (4H, m), 7.80-7.82 (2H, m), 8.44 (1H, brs), 8.76 (1H, dd, J=2.47, 8.90Hz)
ESI (LC-MS positive mode) m/z 418 (M+H).

[Example 1-37]

3-(2-Ethylphenyl)-7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0295]

[Formula 73]



[0296] The captioned compound was synthesized by a method similar to that of Example 1-19.

[0297] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm) : 1.10 (3H, t, J=7.5Hz), 2.65 (2H, q, J=7.5Hz), 3.57-3.75 (2H, m), 3.96 (1H, dd, J=9.0, 6.5Hz), 4.21 (1H, t, J=9.0Hz), 4.70-4.80 (1H, m), 5.25 (1H, t, J=6.0Hz), 6.48 (1H, s), 7.27-7.45 (4H, m), 7.72 (1H, d, J=8.5Hz), 8.08 (1H, d, J=8.5Hz), 8.24 (1H, brs), 11.47 (1H, brs)
ESI (LC-MS positive mode) m/z 365 (M+H).

[Example 1-38]

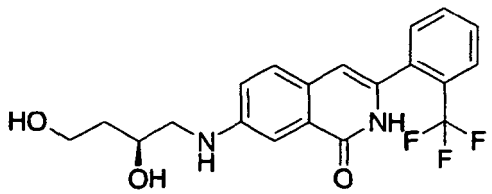
7-[(S)-5-(2-Hydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

7-((S)-2,4-Dihydroxybutylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0298]

[Formula 74]



[0299] Using (S)-3,4-epoxy-1-butanol prepared in accordance with a known method described in publications (for example, Journal of Organic Chemistry, 1992, vol. 57, pp. 4352-4361), the captioned compound was prepared by a reaction similar to step A of Example 1-13.

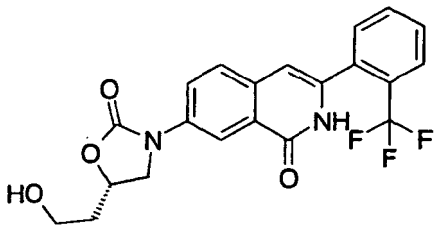
[0300] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm) : 1.50-1.60 (1H, m), 1.66-1.74 (1H, m), 3.00-3.18 (2H, m), 3.50-3.59 (2H, m), 3.75-3.85 (1H, m), 4.40 (1H, t, J=5.1Hz), 4.72 (1H, d, J=5.3Hz), 6.06 (1H, t, J=5.5Hz), 6.29 (1H, s), 7.11 (1H, dd, J=2.6, 8.7Hz), 7.24 (1H, d, J=2.3Hz), 7.40 (1H, d, J=8.6Hz), 7.58 (1H, d, J=7.1Hz), 7.63-7.77 (2H, m), 7.84 (1H, d, J=8.2Hz), 11.24 (1H, brs)
ESI (LC-MS positive mode) m/z 393 (M+H).

Step B

7-[(S)-5-(2-Hydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0301]

[Formula 75]



[0302] Using the 7-((S)-2,4-dihydroxybutylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step A as a starting material, the captioned compound was synthesized by a reaction similar to step B of Example 1-13.

[0303] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 1.80-2.05 (2H, m), 3.54-3.63 (2H, m), 3.92 (1H, dd, J=7.4, 8.7Hz), 4.29 (1H, t, J=8.7Hz), 4.70 (1H, t, J=5.0Hz), 4.85 (1H, quintet, J=7.1Hz), 6.50 (1H, s), 7.60-7.90 (5H, m), 8.08 (1H, dd, J=2.5, 8.7Hz), 8.23 (1H, d, J=2.5Hz), 11.62 (1H, brs)
ESI (LC-MS positive mode) m/z 419 (M+H).

[Example 1-39]

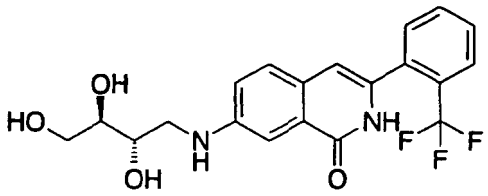
7-[(S)-5-((R)-1,2-Dihydroxyethyl)-2-oxooxazolin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

3-(2-Trifluoromethylphenyl)-7-((2S,3R)-2,3,4-trihydroxybutylamino)-2H-isoquinolin-1-one

[0304]

[Formula 76]



[0305] The 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (2.04 g, 0.986 mmol) obtained in step C of Example 1-1 and D-(-)-erythrose (807 mg, 6.72 mmol) were dissolved in methanol (40 ml). Thereafter, acetic acid (2.31 ml, 40.3 mmol) and a 1 M sodium cyanoborohydride THF solution (20.2 ml, 20.2 mmol) were added at 0°C to the obtained solution, and the obtained mixture was then stirred at a room temperature for 4 hours. Thereafter, the reaction mixture was concentrated under reduced pressure, and water was then added to the concentrate, followed by extraction with methylene chloride. The extract was washed with a saturated saline solution, and was then dried over sodium sulfate, followed by concentration under reduced pressure. The obtained residue was purified by silica gel chromatography (methylene chloride : methanol = 15 : 1 to 10 : 1), so as to obtain 3-(2-trifluoromethylphenyl)-7-((2S,3R)-2,3,4-trihydroxybutylamino)-2H-isoquinolin-1-one (1.15 g, 42%).

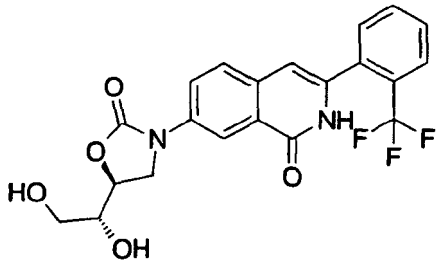
[0306] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 3.30-3.08 (1H, m), 3.43-3.45 (3H, m), 3.62 (2H, d, J=5.67Hz), 4.41 (1H, s), 4.69 (1H, s), 4.79 (1H, s), 5.88 (1H, t, J=5.73Hz), 6.29 (1H, s), 7.14 (1H, dd, J=2.26, 8.85Hz), 7.26 (1H, d, J=2.25Hz), 7.40 (1H, d, J=8.34Hz), 7.58 (1H, d, J=7.71Hz), 7.63-7.76 (2H, m), 7.84 (1H, d, J=8.11Hz), 11.20 (1H, s)
ESI (positive mode) m/z 409 (M+H).

Step B

7-[(S)-5-((R)-1,2-Dihydroxyethyl)-2-oxooxazolin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0307]

[Formula 77]



[0308] Using the 3-(2-trifluoromethylphenyl)-7-((2S,3R)-2,3,4-trihydroxybutylamino)-2H-isoquinolin-1-one obtained in step A as a raw material, the captioned compound was synthesized by a method similar to step B of Example 1-13.

[0309] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 3.79-3.91 (1H, m), 4.17 (2H, d, J=9.15Hz), 4.75-4.81 (2H, m), 5.39 (1H, s), 6.48 (1H, s), 7.64 (1H, d, J=7.62Hz), 7.68-7.80 (3H, m), 7.87 (1H, d, J=7.31Hz), 8.10 (1H, dd, J=2.40, 8.76Hz), 8.26 (1H, d, J=2.61Hz), 11.59 (1H, s)
ESI (positive mode) m/z 435 (M+H).

[Example 1-40]

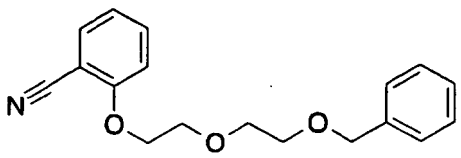
3-{2-[2-(2-Benzyloxyethoxy)ethoxy]phenyl}-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

Step A

2-[2-(2-Benzyloxyethoxy)ethoxy]benzonitrile

[0310]

[Formula 78]



[0311] 2-Hydroxybenzonitrile (300 mg, 2.52 mmol), di(ethylene glycol) benzyl ether (593 mg, 3.02 mmol), and 1,1'-azobis(N,N-dimethylformamide) (867 mg, 5.04 mmol) were dissolved in toluene (15 ml). Thereafter, tri-n-butylphosphine (1.26 ml, 5.04 mmol) was added at 20°C to the obtained solution, and the obtained mixture was stirred at the same above temperature for 2 hours. The generated precipitate was filtrated, and the filtrate was then diluted with ethyl acetate (20 ml). The ethyl acetate solution was washed with water twice, and then with a saturated saline solution once. The resultant was dried over anhydrous sodium sulfate, and was then concentrated under reduced pressure. The obtained pale brown oil product was purified by silica gel column chromatography (dichloromethane), so as to obtain 2-[2-(2-benzyloxyethoxy)ethoxy]benzonitrile (529 mg, 71%) in the form of a colorless oil product.

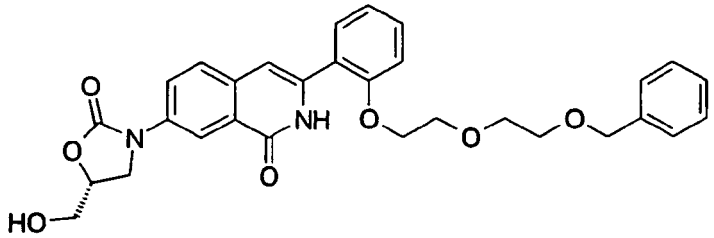
[0312] ^{1}H-NMR (400MHz, $CDCl_3$) δ (ppm): 3.65-3.67 (2H, m), 3.79-3.81 (2H, m), 3.93 (2H, t, J=5.0Hz), 4.24 (2H, t, J=5.0Hz), 4.57 (2H, s), 6.88 (1H, d, J=7.5Hz), 6.99 (1H, t, J=7.5Hz), 7.26-7.35 (5H, m), 7.49 (1H, t, J=7.5Hz), 7.54 (1H, d, J=7.5Hz)
ESI (LC-MS positive mode) m/z 298 (M+H).

Step B

3-{2-[2-(2-Benzyloxyethoxy)ethoxy]phenyl}-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0313]

[Formula 79]



[0314] Using the 2-[2-(2-benzyloxyethoxy)ethoxy]benzonitrile prepared in step A as a raw material, the captioned compound was synthesized by a method similar to that of Example 1-19.

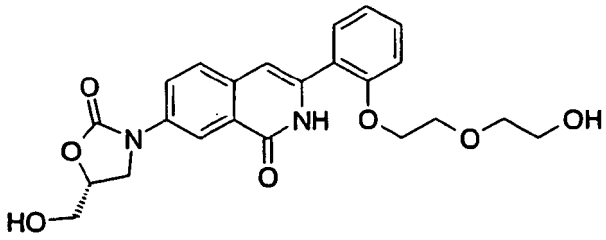
[0315] ^{1}H-NMR (270MHz, DMSO-d_6) δ: 3.40-3.85 (8H, m), 3.88-4.0 (1H, m), 4.21-4.30 (3H, m), 4.64-4.83 (1H, m), 6.73 (1H, s), 7.0-7.30 (7H, m), 7.32-7.50 (2H, m), 7.69 (1H, d, J=8.6Hz), 8.05 (1H, dd, J=2.4, 8.9Hz), 8.21 (1H, d, J=2.4Hz) ESI (LC-MS positive mode) m/z 531 (M+H).

[Example 1-41]

3-{2-[2-(2-Hydroxyethoxy)ethoxy]phenyl}-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0316]

[Formula 80]



[0317] Using the 3-{2-[2-(2-benzyloxyethoxy)ethoxy]phenyl}-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one obtained in Example 1-40 as a raw material, the captioned compound was synthesized by a method similar to that of Example 1-36.

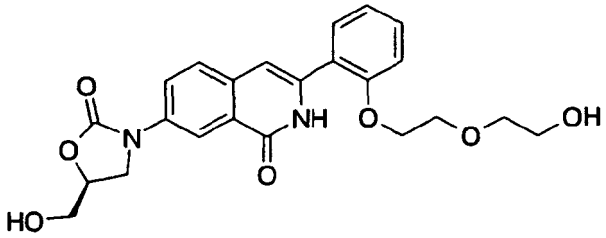
[0318] ^{1}H-NMR (270MHz, DMSO-d_6) δ: 3.40-3.85 (8H, m), 3.87-4.0 (1H, m), 4.12-4.35 (3H, m), 4.64-4.83 (1H, m), 6.78 (1H, s), 7.0-7.26 (2H, m), 7.31-7.64 (2H, m), 7.73 (1H, d, J=8.9Hz), 8.07 (1H, dd, J=2.5, 8.9Hz), 8.22 (1H, d, J=2.5Hz) ESI (LC-MS positive mode) m/z 441 (M+H).

[Example 1-42]

3-{2-[2-(2-Hydroxyethoxy)ethoxy]phenyl}-7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0319]

[Formula 81]



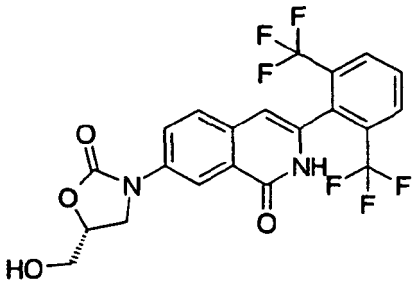
[0320] The captioned compound was synthesized by methods similar to those described in Examples 1-40 and 1-41.

[Example 1-43]

3-[2,6-Bis(trifluoromethyl)phenyl]-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0321]

[Formula 82]



[0322] Using 2,6-bis(trifluoromethyl)benzonitrile as a raw material, the captioned compound was synthesized by a method similar to that of Example 1-19.

[0323] ^{1}H-NMR (400MHz, DMSO-d_6) δ: 3.52-3.80 (2H, m), 3.90-4.05 (1H, m), 4.22 (1H, t, J=9.2Hz), 4.71-4.80 (1H, m), 5.28 (1H, brs), 6.55 (1H, s), 7.75 (1H, d, 8.6Hz), 7.97 (1H, t, J=8.6Hz), 8.10 (1H, d, J=8.6Hz), 11.71 (1H, brs)
ESI (LC-MS positive mode) m/z 473 (M+H).

[Example 1-44]

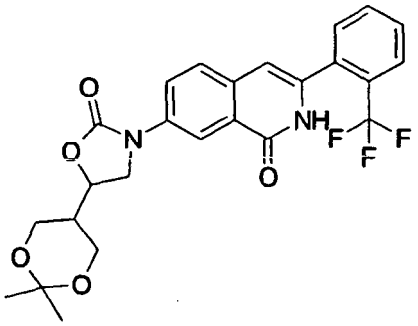
7-[5-(2-Hydroxy-1-hydroxymethylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

7-[5-(2,2-Dimethyl-[1,3]dioxan-5-yl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0324]

[Formula 83]



[0325] Using 2,2-dimethyl-5-oxilanyl[1,3]dioxane, which is a known compound described in a publication (J. Chem. Soc., Perkin Trans. I, pp. 1879-1883 (1985)), as a raw material, the captioned compound was synthesized by a method similar to that of Example 1-13.

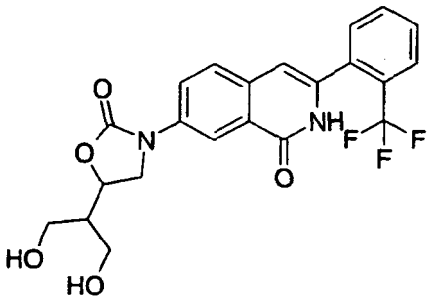
[0326] ^{1}H-NMR (300MHz, $CDCl_3$) δ (ppm) : 1.41 (3H, s), 1.48 (3H, s), 1.91 (1H, m), 3.83 (1H, m), 3.97-4.19 (4H, m), 4.31 (1H, t, J=8.8Hz), 5.04 (1H, q, J=8.8Hz), 6.55 (1H, s), 7.54-7.71 (4H, m), 7.82 (1H, d, J=7.6Hz), 7.95 (1H, d, J=2.3Hz), 8.59 (1H, dd, J=2, 3, 8.8Hz), 9.29 (1H, brs).

Step B

7-[5-(2-Hydroxy-1-hydroxymethylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0327]

[Formula 84]



[0328] The 7-[5-(2,2-dimethyl-[1,3]dixane-5-yl)2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (30 mg, 0.061 mmol) obtained in step A was dissolved in THF (2 ml). Thereafter, 3 N HCl (0.116 ml, 0.348 mmol) was added to the obtained solution, and the obtained mixture was then stirred at a room temperature for 1 hour. Thereafter, a saturated sodium bicarbonate solution was added to the reaction mixture, and the obtained mixture was then extracted with ethyl acetate. The extract was washed with a saturated saline solution, and was then dried over magnesium sulfate, followed by concentration under reduced pressure. The obtained residue was purified by silica gel chromatography (methylene chloride : methanol = 15 : 1), so as to obtain 7-[5-(2-hydroxy-1-hydroxymethylethyl)2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (20 mg, 73%).

[0329] ^{1}H-NMR (300MHz, CD_3OD) δ (ppm): 2.15 (1H, m), 3.78-3.93 (4H, m), 4.24-4.38 (2H, m), 4.94 (1H, q, J=8.1Hz), 6.63 (1H, m), 7.63-7.81 (4H, m), 7.89 (1H, d, J=7.6Hz), 8.27-8.31 (2H, m).

[Example 1-45]

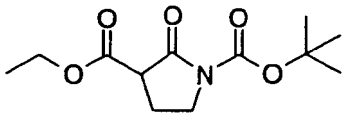
Ethyl 2-oxo-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]pyrrolidine-3-carboxylate

Step A

1-tert-Butyl 2-oxopyrrolidine-1,3-dicarboxylate 3-ethyl ester

[0330]

[Formula 85]



[0331] A mixture of 2-pyrrolidone (1.0 ml, 10.5 mmol), di-tert-butyl dicarbonate (4.6 g, 21.0 mmol), and 4-(dimethylamino)pyridine (5.1 g, 42.0 mmol) was dissolved in acetonitrile (50 ml), and the obtained solution was stirred at a room temperature for 2 hours. The reaction solution was poured into a saturated ammonium chloride aqueous solution, and the obtained solution was then extracted with ethyl acetate. The extract was washed with a saturated ammonium chloride aqueous solution and with a saturated saline solution. The resultant was dried over anhydrous sodium sulfate, and was then concentrated, so as to obtain a crude product of 2-oxopyrrolidin-1-carboxylic acid tert-butyl (1.7 g, 75%) in the form of a reddish brown substance.

[0332] A THF solution (10 ml) that contained the crude product of 2-oxopyrrolidin-1-carboxylic acid tert-butyl (500 mg, 2.70 mmol) was added dropwise at -78°C to a 1 M lithium hexamethyldisilazane THF solution (5.4 ml, 5.4 mmol), and the obtained mixture was stirred for 50 minutes. A solution obtained by dissolving ethyl chloroformate (0.27 ml, 2.84 mmol) in THF (5 ml) was further added dropwise to the reaction solution at -78°C. The temperature of the mixture was increased to a room temperature, and the mixture was then stirred for 4 hours. Thereafter, the reaction solution was poured into a saturated ammonium chloride aqueous solution, followed by extraction with ethyl acetate. The extract was washed with a saturated saline solution, and was then dried over anhydrous sodium sulfate, followed by concentration. The obtained residue was purified by silica gel chromatography (hexane : ethyl acetate = 5 : 1 to 2 : 1), so as to obtain 2-oxopyrrolidin-1,3-dicarboxylic acid 1-tert-butyl ester 3-ethyl ester (468 mg, 67%) in the form of a liver brown oil substance.

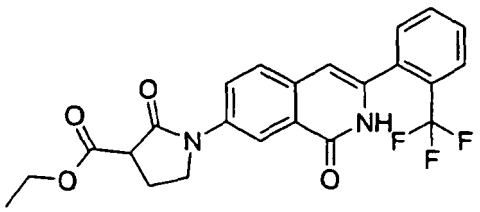
[0333] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 1.31 (3H, t, J=7.1Hz), 1.53 (9H, s), 2.16-2.46 (2H, m), 3.53 (1H, dd, J=7.4, 9.1Hz), 3.66-3.75 (1H, m), 3.84-3.93 (1H, m), 4.24 (2H, dd, J=7.1, 14.3Hz)
ESI (LC-MS positive mode) m/z 258 (M+H).

Step B

Ethyl 2-oxo-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]pyrrolidine-3-carboxylate

[0334]

[Formula 86]



[0335] The 2-oxopyrrolidin-1,3-dicarboxylic acid 1-tert-butyl ester 3-ethyl ester (100 mg, 0.389 mmol) prepared in step A was suspended in dichloromethane (5 ml), and trifluoroacetic acid (0.5 mg, 6.490 mmol) was then added dropwise to

the suspension under cooling on ice. The temperature of the mixture was increased to a room temperature, and the mixture was then stirred for 1 hour. Thereafter, the reaction solution was concentrated, so as to obtain a crude product of 2-oxopyrrolidin-3-carboxylic acid ethyl.

[0336] Using this crude product and the 7-iodo-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (161 mg, 0.389 mmol) obtained in step D of Example 1-1 as raw materials, 2-oxo-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]pyrrolidin-3-carboxylic acid ethyl was synthesized by a reaction similar to step E of Example 1-1.

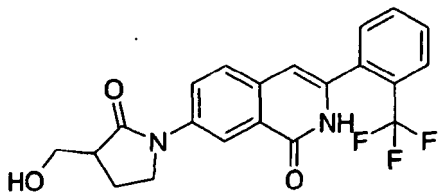
[0337] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 1.24 (3H, t, J=7.1Hz), 2.32-2.47 (2H, m), 3.81 (1H, t, J=8.7Hz), 3.96-4.04 (2H, m), 4.18 (2H, ddd, J=14.1, 7.1, 1.3Hz), 6.50 (1H, s), 7.63-7.81 (4H, m), 7.88 (1H, d, J=8.7Hz), 8.10 (1H, dd, J=8.7, 2.3Hz), 8.37 (1H, d, J=2.3Hz) 11.64 (1H, brs)
ESI (LC-MS positive mode) m/z 445 (M+H).

[Example 1-46]

7-(3-Hydroxymethyl-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0338]

[Formula 87]



[0339] The 2-oxo-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]pyrrolidin-3-carboxylic acid ethyl (11 mg, 0.025 mmol) prepared in step B of Example 1-45, sodium borohydride (9.5 mg, 0.25 mmol), and calcium chloride (27.7 mg, 0.25 mmol) were dissolved in methanol (5 ml), and the obtained solution was then stirred at a room temperature for 16 hours. Thereafter, the reaction solution was concentrated, and it was then purified using ODS cartridge 5g (Mega Bond Elut (registered trademark) C18, manufactured by Varian; water : methanol = 1 : 0 to 0 : 1). The resultant was then preparatively separated by preparative HPLC (column: Combi ODS (ϕ: 28.0 mm x 50 mm) manufactured by Wako; developing solvent: 0.05% trifluoroacetic acid-containing water : 0.05% trifluoroacetic acid-containing acetonitrile = 90 : 10 to 5 : 95), so as to obtain 7-(3-hydroxymethyl-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (5 mg, 50%) in the form of a white amorphous substance.

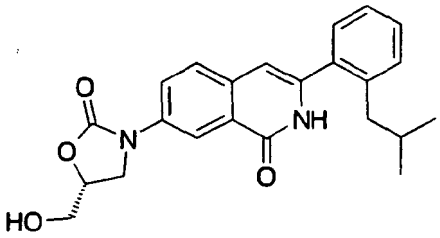
[0340] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.08-2.26 (2H, m), 2.71-2.79 (1H, m), 3.65 (1H, dd, J=3.6, 10.6Hz), 3.76 (1H, dd, J=5.2, 10.6Hz), 3.87-3.92 (2H, m), 4.85 (1H, brs), 6.48 (1H, s), 7.63-7.81 (4H, m), 7.87 (1H, d, J=6.7Hz), 8.17 (1H, dd, J=2.5, 8.7Hz), 8.36 (1H, d, J=2.5Hz), 11.56 (1H, brs)
ESI (LC-MS positive mode) m/z 403 (M+H).

[Example 1-47]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-isobutylphenyl)-2H-isoquinolin-1-one

[0341]

[Formula 88]



[0342] The captioned compound was synthesized by a method similar to that of Example 1-19.

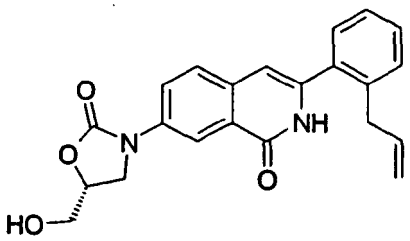
[0343] ^{1}H-NMR (270MHz, CD_3OD) δ: 0.68 (6H, d, J=6.6Hz), 1.68 (1H, sext, J=6.6Hz), 2.50 (2H, d, J=6.6Hz), 3.40-3.85 (8H, m), 3.59-3.87 (1H, m), 3.92-4.05 (1H, m), 4.10-4.26 (1H, m), 4.63-4.82 (1H, m), 6.50 (1H, s), 7.10-7.39 (4H, m), 7.63 (1H, d, J=8.6Hz), 8.09-8.22 (1H, m)
ESI (LC-MS positive mode) m/z 393 (M+H).

[Example 1-48]

3-(2-Allylphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0344]

[Formula 89]



[0345] The captioned compound was synthesized by a method similar to that of Example 1-19.

[0346] ^{1}H-NMR (270MHz, CD_3OD) δ: 1.71 (2H, d, J=4.9Hz), 3.59-3.86 (2H, m), 3.91-4.03 (1H, m), 4.11-4.25 (1H, m), 4.63-4.82 (1H, m), 6.1-6.35 (3H, m), 6.50 (1H, s), 7.16-7.39 (3H, m), 7.49-7.68 (2H, m), 8.11-8.26 (2H, m), 8.44 (1H, brs)
ESI (LC-MS positive mode) m/z 377 (M+H).

[Example 1-49]

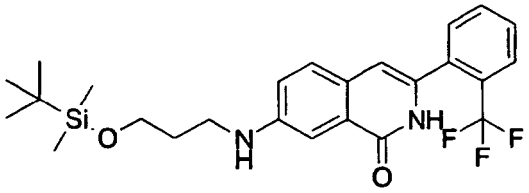
7-(2-Oxo-[1,3]oxazinan-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

7-[3-(tert-Butyldimethylsilyloxy)propylamino]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0347]

[Formula 90]



[0348] The 7-amino-3-(2trifluoromethylphenyl)-2H-isoquinolin-1-one (300 mg, 0.986 mmol) obtained in step C of Example 1-1 was dissolved in methanol (10 ml). Thereafter, 3-[(tert-butyldimethylsilyl)oxy]-1-propanol (186 mg, 0.986 mmol), acetic acid (0.339 ml), and a 1 M sodium cyanoborohydride THF solution (2.96 ml, 2.96 mmol) were added at 0°C to the obtained solution, and the obtained mixture was stirred at a room temperature for 1 hour. Thereafter, a saturated sodium bicarbonate solution was added to the reaction mixture, and the obtained mixture was then extracted with methylene chloride. The extract was dried over magnesium sulfate, and was then concentrated under reduced pressure. The obtained residue was purified by silica gel chromatography(ethyl acetate : hexane = 1 : 3), so as to obtain 7-[3-(tert-butyldimethylsilyloxy)propylamino]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (376 mg, 80%).

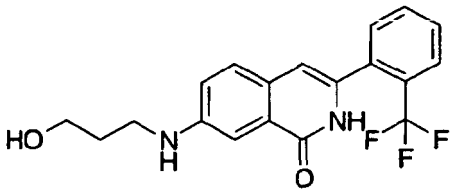
[0349] ^{1}H-NMR (300MHz, $CDCl_3$) δ (ppm): 0.09 (6H, s), 0.94 (9H, s), 1.85-1.95 (2H, m), 3.37 (2H, t, J=6.5Hz), 3.81 (2H, t, J=5.3Hz), 6.43 (1H, s), 6.98 (1H, dd, J=2.3, 8.4Hz), 7.38 (1H, d, J=8.8Hz), 7.45 (1H, d, J=2.7Hz), 7.51-7.66 (3H, m), 7.79 (1H, d, J=7.5Hz), 8.79 (1H, brs)
ESI (positive mode) m/z 477 (M+H).

Step B

7-(3-Hydroxypropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0350]

[Formula 91]



[0351] The 7-[3-(tert-butyldimethylsilyloxy)propylamino]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (435 mg, 0.913 mmol) obtained in step A was dissolved in THF (9 ml). Thereafter, a 1 M tetrabutylammonium fluoride THF solution (1.1 ml, 1.1 mmol) was added to the obtained solution at a room temperature. The obtained mixture was stirred for 5 hours. Thereafter, methylene chloride was added to the reaction solution. An organic layer thereof was washed with a saturated saline solution, and was then dried over magnesium sulfate, followed by concentration under reduced pressure. The obtained residue was purified by silica gel chromatography (methylene chloride : methanol = 30 : 1), so as to obtain 7-(3-hydroxypropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (337 mg, 95%).

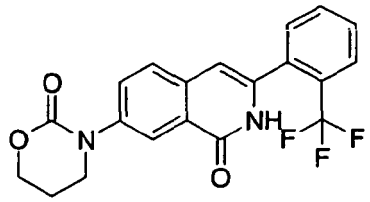
[0352] ^{1}H-NMR (300MHz, $CDCl_3$) δ (ppm): 1.90-1.99 (2H, m), 3.42 (2H, t, J=6.9Hz), 3.84 (2H, t, J=5.7Hz), 6.43 (1H, s), 7.03 (1H, dd, J=2.3, 8.0Hz), 7.38 (1H, d, J=8.8Hz), 7.51-7.66 (4H, m), 7.78 (1H, d, J=7.6Hz), 8.65 (1H, brs)
ESI (positive mode) m/z 363 (M+H).

Step C

7-(2-Oxo-[1,3]oxazinan-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0353]

[Formula 92]



[0354] Using the 7-(3-hydroxypropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step B as a raw material, the captioned compound was synthesized by a method similar to step B of Example 1-13.

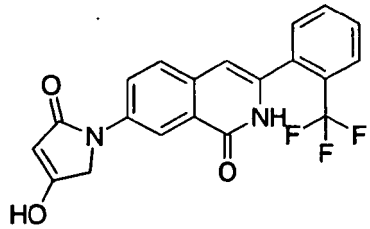
[0355] ^{1}H-NMR (300MHz, $CDCl_3$) δ (ppm): 2.22-2.31 (2H, m), 3.85 (2H, t, J=6.1Hz), 4.47 (2H, t, J=5.3Hz), 6.52 (1H, s), 7.53-7.70 (4H, m), 7.80-7.84 (2H, m), 8.22 (1H, brs), 9.09 (1H, brs)
ESI (positive mode) m/z.389 (M+H).

[Example 1-50]

7-(4-Hydroxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0356]

[Formula 93]



[0357] A mixture of the 7-(4-benzyloxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2- trifluoromethylphenyl)-2H-isoquinolin-1-one (8 mg, 0.017 mmol) prepared in Example 1-8 and palladium hydroxide (2 mg) was dissolved in methanol. The obtained mixture was stirred in a hydrogen atmosphere for 1 hour. Thereafter, the reaction solution was filtered through celite, and the concentrated residue was then preparatively separated by preparative HPLC (column: Combi ODS (ϕ: 28.0 mm x 50 mm), manufactured by Wako; developing solvent: 0.05% trifluoroacetic acid-containing water : 0.05% trifluoroacetic acid-containing acetonitrile = 90 : 10 to 5 : 95), so as to obtain 7-(4-hydroxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (1 mg, 15%) in the form of a colorless oil substance.

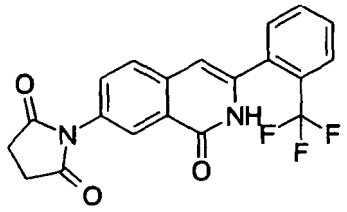
[0358] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 4.48 (2H, s), 5.02 (1H, s), 6.41 (1H, s), 7.61-7.75 (4H, m), 7.84 (1H, d, J=7.6Hz), 8.15 (1H, d, J=8.7Hz), 8.35 (1H, s), 11.49 (1H, brs), 11.99 (1H, brs)
ESI (LC-MS positive mode) m/z 387 (M+H).

[Example 1-51]

1-[1-Oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]pyrrolidine-2,5-dione

[0359]

[Formula 94]



[0360] Using the 7-iodo-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (30 mg, 0.072 mmol) obtained in step D of Example 1-1 as a raw material, the captioned compound was synthesized by a reaction similar to step E of Example 1-1.

[0361] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 2.97 (4H, s), 6.65 (1H, s), 7.26-7.84 (7H, m), 8.37 (1H, brs)
ESI (LC-MS positive mode) m/z 387 (M+H).

[Example 2-1]

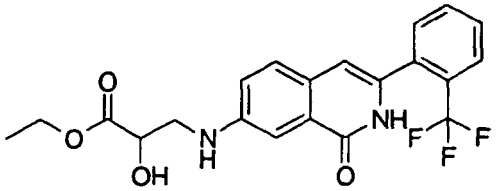
Ethyl 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylate

Step A

Ethyl 2-hydroxy-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-ylamino]propanoate

[0362]

[Formula 95]



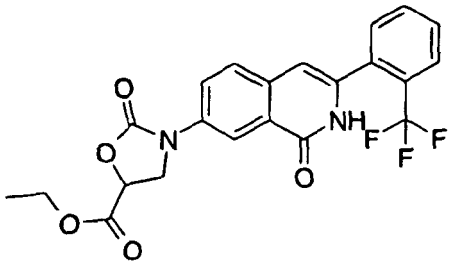
[0363] The 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (820 mg, 2.69 mmol) obtained in step C of Example 1-1 was dissolved in ethanol (5.4 ml). Thereafter, methyl glycidate (313 mg, 2.69 mmol) was added to the obtained solution, and the obtained mixture was stirred under heating to reflux for 4 days. Thereafter, the reaction solution was concentrated, and the concentrate was then subjected to silica gel column chromatography (ethyl acetate : hexane = 1 : 2 to 3 : 1), so as to obtain 2-hydroxy-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-ylamino]ethyl propanoate (795.5 mg, 70%) in the form of a yellow foaming substance.
^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 1.31 (3H, t, J=7.1Hz), 3.28-3.33 (1H, m), 3.50-3.73 (2H, m), 4.08-4.31 (2H, m), 4.40-4.50 (2H, m), 6.44 (1H, s), 7.07 (1H, dd, J=2.6, 8.5Hz), 7.40 (1H, d, J=8.5Hz), 7.50-7.70 (4H, m), 7.78-7.83 (1H, m), 8.51 (1H, brs)
ESI (LC-MS positive mode) m/z 421 (M+H).

Step B

Ethyl 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylate

[0364]

[Formula 96]



[0365] The 2-hydroxy-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-ylamino]propanoic acid methyl (203 mg, 0.5 mmol) obtained in step A was dissolved in THF (2.5 ml). Thereafter, carbonyldimidazole (81 mg, 0.5 mmol) was added to the obtained solution, and the obtained mixture was stirred at a room temperature for 5.5 hours. Thereafter, water was added to the reaction solution, followed by extraction with ethyl acetate. The extract was washed with a saturated saline solution, and was then dried over anhydrous sodium sulfate. Thereafter, the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 3 : 1 to 6 : 1), so as to obtain 2-oxo-3-[1-oxo-3-(2- trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-carboxylic acid methyl (152.3 mg, 70%) in the form of a colorless oil substance.

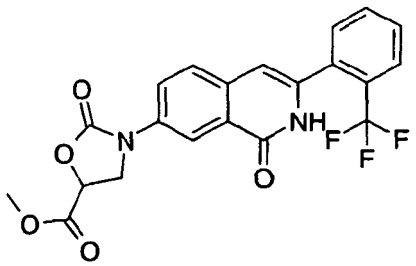
[0366] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm) : 1.37 (3H, t, J=7.2Hz), 4.26-4.49 (4H, m), 5.12 (1H, dd, J=5.5, 9.6Hz), 6.53 (1H, s), 7.54-7.72 (4H, m), 7.81-7.85 (1H, m), 7.94 (1H, d, J=2.4Hz), 8.52 (1H, brs), 8.57 (1H, dd, J=2.4, 8.9Hz)
ESI (LC-MS positive mode) m/z 447 (M+H).

[Example 2-2]

Methyl 2-oxo-3-[I-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylate

[0367]

[Formula 97]



[0368] Using methyl glycidate, the captioned compound was synthesized by a method similar to that of Example 2-1.

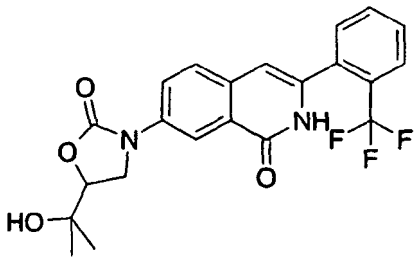
[0369] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.90 (3H, s), 4.30 (1H, dd, J=5.3, 9.6Hz), 4.44 (1H, t, J=9.6Hz), 5.15 (1H, dd, J=5.3, 9.6Hz), 6.52 (1H, s), 7.53-7.73 (4H, m), 7.81 (1H, dd, J=1.0, 7.3Hz), 7.91 (1H, d, J=2.5Hz), 8.49 (1H, dd, J=2.5, 8.7Hz), 9.28 (1H, brs)
ESI (LC-MS positive mode) m/z 433 (M+H).

[Example 2-3]

7-[5-(1-Hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0370]

[Formula 98]



[0371] A THF solution that contained methylmagnesium chloride (0.6 M, 290 μl) was added to a THF solution (0.5 ml) that contained the 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-carboxylic acid methyl (15.5 mg, 0.0358 mmol) obtained in Example 2-1 under cooling on ice. The obtained mixture was stirred for 1 hour. Thereafter, a saturated ammonium chloride aqueous solution was added to the reaction solution, and the mixture was then extracted with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and was then concentrated under reduced pressure. The obtained residue was purified by silica gel column chromatography (acetone : hexane = 1 : 1), so as to obtain 7-[5-(1-hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2- trifluoromethylphenyl)-2H-isoquinolin-1-one (12.6 mg, 81%) in the form of a colorless amorphous substance.

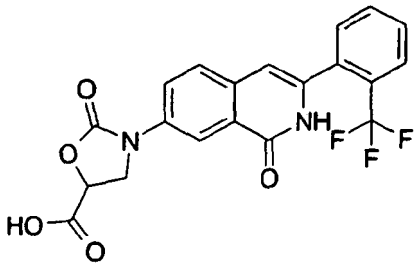
[0372] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 1.30 (3H, s), 1.42 (3H, s), 2.76 (1H, s), 4.07 (1H, t, J=9.1Hz), 4.25 (1H, dd, J=7.3, 9.1Hz), 4.50 (1H, dd, J=7.3, 9.1Hz), 6.51 (1H, s), 7.50-7.70 (4H, m), 7.78-7.83 (1H, m), 7.92 (1H, d, J=2.5Hz), 8.51 (1H, dd, J=2.6, 8.8Hz), 9.03 (1H, brs)
ESI (LC-MS positive mode) m/z 447 (M+H).

[Example 2-4]

2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid

[0373]

[Formula 99]



[0374] The 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-carboxylic acid methyl (24.3 mg, 0.0562 mmol) obtained in Example 2-1 was suspended in methanol (2 ml). Thereafter, lithium hydroxide monohydrate (11.8 mg, 0.281 mmol) was added to the suspension, and the obtained mixture was then stirred at a room temperature for 30 minutes. Thereafter, 1 N hydrochloric acid (300 μl) was added thereto, and the reaction solution was then concentrated under reduced pressure. Ethyl acetate was added to the obtained residue. The mixture was washed with water, and was then dried over anhydrous sodium sulfate, so as to obtain 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-carboxylic acid (23.2 mg, 99%) in the form of a colorless amorphous substance.

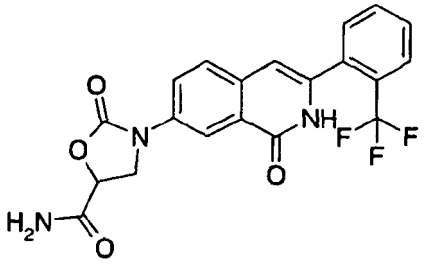
[0375] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 4.23 (1H, dd, J=5.5, 9.0Hz), 4.49 (1H, t, J=9.6Hz), 5.23 (1H, dd, J=5.4, 9.7Hz), 6.50 (1H, s), 7.62-7.88 (6H, m), 8.01 (1H, dd, J=2.4, 8.6Hz), 8.30 (1H, d, J=2.4Hz), 11.64 (1H, brs)
ESI (LC-MS positive mode) m/z 419 (M+H).

[Example 2-5]

2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid amide

[0376]

[Formula 100]



[0377] The 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-carboxylic acid (12.5 mg, 0.03 mmol) obtained in Example 2-4 and a 25% ammonia aqueous solution (3.06 μl, 0.045 mmol) were dissolved in isopropanol (0.3 ml). Thereafter, 4-(4,6-dimethoxy-1,3,5-triazin-2-yl)-4-methylmorpholinium chloride (13.3 mg, 0.045 mmol) was added to the solution, and the obtained mixture was then stirred at a room temperature for 3.5 hours. Thereafter, water was added to the reaction solution, and the mixture was then extracted with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and the solvent was then distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 30 : 1), so as to obtain 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-carboxylic amide (9.8 mg, 78%) in the form of a colorless amorphous substance.

[0378] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 4.12 (1H, dd, J=5.9, 8.9Hz), 4.43 (1H, t, J=9.3Hz), 5.09 (1H, dd, J=5.8, 9.6Hz), 6.50 (1H, s), 7.63-7.92 (7H, m), 8.02 (1H, dd, J=2.7, 8.6Hz), 8.32 (1H, d, J=2.4Hz), 11.64 (1H, brs)
ESI (LC-MS positive mode) m/z 418 (M+H).

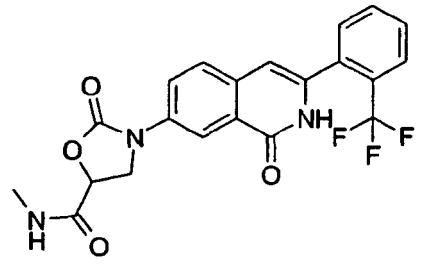
[0379] The following compounds (Examples 2-6 to 2-10) were synthesized by a method similar to that of Example 2-5.

[Example 2-6]

2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid methylamide

[0380]

[Formula 101]



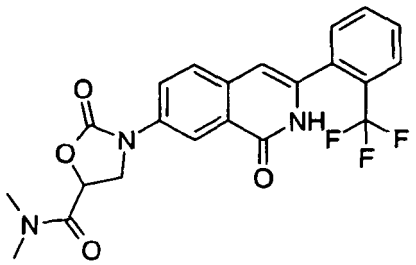
[0381] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.68 (3H, d, J=4.9Hz), 4.14 (1H, dd, J=5.9, 8.9Hz), 4.43 (1H, t, J=9.2Hz), 5.12 (1H, dd, J=5.8, 9.6Hz), 6.50 (1H, s), 7.63-7.89 (5H, m), 8.00 (1H, dd, J=2.4, 8.6Hz), 8.33 (1H, d, J=2.4Hz), 8.41-8.45 (1H, m), 11.64 (1H, brs)
ESI (LC-MS positive mode) m/z 432 (M+H).

[Example 2-7]

2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid dimethylamide

[0382]

[Formula 102]



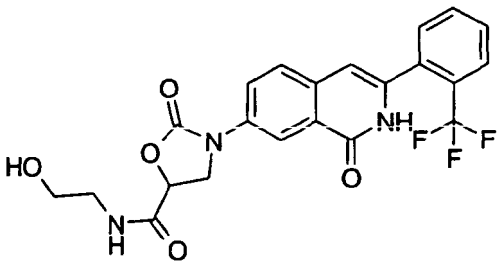
[0383] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 3.03 (3H, s), 3.22 (3H, s), 4.23 (1H, t, J=9.2Hz), 4.84 (1H, dd, J=5.9, 8.9Hz), 5.34 (1H, dd, J=5.9, 8.9Hz), 6.56 (1H, s), 7.54-7.71 (4H, m), 7.79-7.83 (1H, m), 8.07 (1H, d, J=2.7Hz), 8.48 (1H, dd, J=2.6, 8.8Hz), 9.98 (1H, brs)
ESI (LC-MS positive mode) m/z 446 (M+H).

[Example 2-8]

2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid (2-hydroxyethyl) amide

[0384]

[Formula 103]

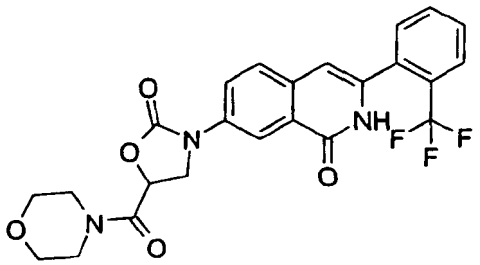


[0385] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.15-3.26 (2H, m), 3.43-3.50 (2H, m), 4.12 (1H, dd, J=5.9, 8.9Hz), 4.43 (1H, t, J=9.3Hz), 4.77 (1H, t, J=5.3Hz), 5.14 (1H, dd, J=5.9, 9.5Hz), 6.50 (1H, s), 7.62-7.90 (5H, m), 8.02 (1H, dd, J=2.6, 8.8Hz), 8.31 (1H, d, J=2.4Hz), 8.44 (1H, t, J=5.7Hz), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 462 (M+H).

[Example 2-9]

[0386] 7-[5-(Morpholine-4-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[Formula 104]



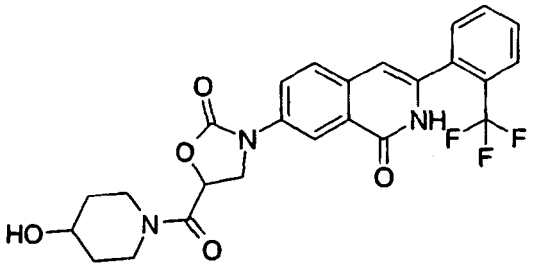
[0387] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.48-4.05 (8H, m), 4.32 (1H, dd, J=5.1, 9.2Hz), 4.42 (1H, t, J=9.2Hz), 5.70 (1H, dd, J=5.1, 9.2Hz), 6.50 (1H, s), 7.62-7.90 (5H, m), 8.07 (1H, dd, J=2.4, 8.6Hz), 8.27 (1H, d, J=2.4Hz), 11.65 (1H, brs)
ESI (LC-MS positive mode) m/z 488 (M+H).

[Example 2-10]

7-[5-(4-Hydroxypiperidine-1-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0388]

[Formula 105]



[0389] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 1.56-1.70 (2H, m), 1.71-2.03 (3H, m), 3.18-3.40 (1H, m), 3.46-3.61 (1H, m), 3.79-4.16 (3H, m), 4.22 (1H, t, J=9.1Hz), 4.89 (1H, dt, J=6.1, 8.8Hz), 5.32 (1H, ddd, J=2.1, 5.7, 8.7Hz), 6.51 (1H, s), 7.55-7.71 (4H, m), 7.78-7.83 (1H, m), 8.06-8.09 (1H, m), 8.47 (1H, dt, J=8.9, 2.6Hz), 8.97 (1H, brs)
ESI (LC-MS positive mode) m/z 502 (M+H).

[Example 2-11]

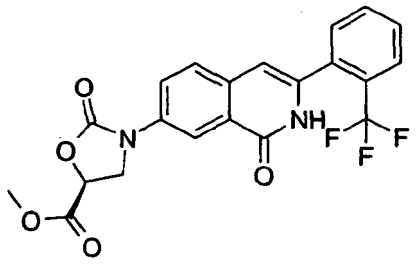
7-[(S)-5-(1-Hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

Methyl (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylate

[0390]

[Formula 106]



[0391] Using (S)-methyl glycidate, the captioned compound was synthesized by a method similar to that of Example 2-1.

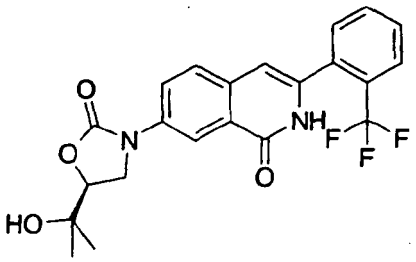
[0392] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 3.90 (3H, s), 4.31 (1H, dd, J=5.3, 9.6Hz), 4.44 (1H, t, J=9.6Hz), 5.14 (1H, dd, J=5.3, 9.6Hz), 6.52 (1H, s), 7.25-7.72 (4H, m), 7.80-7.84 (1H, m), 7.93 (1H, d, J=2.5Hz), 8.52 (1H, dd, J=2.5, 8.9Hz), 8.81 (1H, brs)
ESI (LC-MS positive mode) m/z 433 (M+H).

Step B

7-[(S)-5-(1-Hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0393]

[Formula 107]



[0394] The (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-carboxylic acid methyl (400 mg, 0.925 mmol) obtained in step A was dissolved in THF (4.6 ml). A 3 M methylmagnesium bromide THF solution (1.08 ml, 3.24 mmol) was added to the solution at -78°C, and the mixture was then stirred at 0°C for 30 minutes. Thereafter, a saturated ammonium chloride aqueous solution was added to the reaction solution, and the mixture was then extracted with ethyl acetate. The extract was washed with a saturated saline solution, and was then dried over anhydrous sodium sulfate. Thereafter, the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 4 : 1), so as to obtain 7-[(S)-5-(1-hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (205.1 mg, 51%) in the form of a colorless foaming substance.

[0395] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 1.30 (3H, s), 1.43 (3H, s), 4.09 (1H, t, J=9.1Hz), 4.23 (1H, dd, J=7.4, 8.9Hz), 4.50 (1H, dd, J=7.4, 9.0Hz), 6.52 (1H, s), 7.54-7.72 (5H, m), 7.80-7.85 (1H, m), 7.94 (1H, d, J=2.5Hz), 8.57 (1H, dd, J=2.6, 8.8Hz), 8.59 (1H, brs)
ESI (LC-MS positive mode) m/z 433 (M+H).

[Example 2-12]

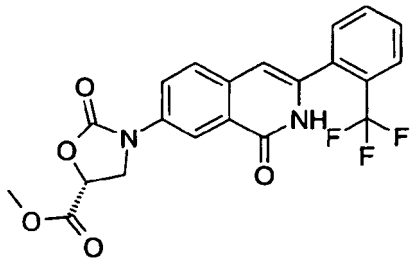
7-[(R)-5-(1-Hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

Methyl (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylate

[0396]

[Formula 108]



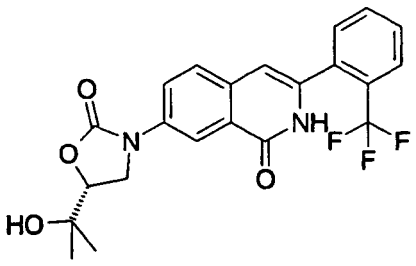
[0397] Using (R)-methyl glycidate, the captioned compound was synthesized by a method similar to that of Example 2-1.
[0398] ESI (LC-MS positive mode) m/z 433 (M+H).

Step B

7-[(R)-5-(1-Hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0399]

[Formula 109]



[0400] The captioned compound was synthesized by a method similar to step B of Example 2-11.
[0401] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 1.29 (3H, s), 1.41 (3H, s), 3.61 (1H, brs), 4.03 (1H, t, J=9.1Hz), 4.26 (1H, t, J=8.9Hz), 4.49 (1H, t, J=8.4Hz), 6.48 (1H, s), 7.43 (1H, d, J=8.9Hz), 7.54-7.68 (3H, m), 7.76 (1H, d, J=7.7Hz), 7.83 (1H, d, J=2.0), 8.40 (1H, dd, J=2.0, 8.8Hz), 9.52 (1H, brs)
ESI (LC-MS positive mode) m/z 433 (M+H).

[Example 2-13]

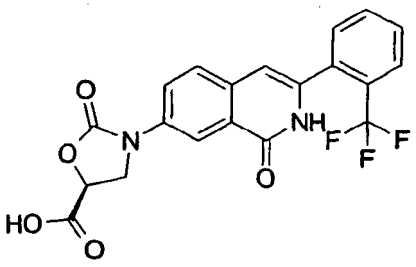
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid amide

Step A

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid

[0402]

[Formula 110]



[0403] Using the (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7yl]oxazolidin-5-carboxylic acid methyl obtained in step A of Example 2-11 as a raw material, the captioned compound was prepared by a method similar to that of Example 2-4.

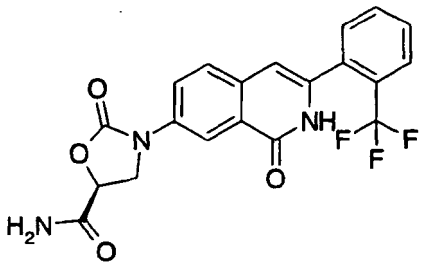
[0404] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 4.24 (1H, dd, J=5.3, 9.8Hz), 4.50 (1H, t, J=9.5Hz), 5.26 (1H, dd, J=5.4, 9.2Hz), 6.50 (1H, s), 7.62-7.90 (5H, m), 8.01 (1H, dd, J=2.5, 8.7Hz), 8.30 (1H, d, J=2.5Hz), 11.64 (1H, brs), 13.64 (1H, brs)
ESI (LC-MS positive mode) m/z 419 (M+H).

Step B

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid amide

[0405]

[Formula 111]



[0406] Using the (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-carboxylic acid obtained in step A as a synthetic material, the captioned compound was synthesized by a method similar to that of Example 2-5.

[0407] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 4.12 (1H, dd, J=5.8, 9.0Hz), 4.42 (1H, t, J=9.3Hz), 5.08 (1H, dd, J=5.8, 9.3Hz), 6.50 (1H, s), 7.60-7.83 (6H, m), 7.84-7.94 (1H, m), 8.01 (1H, dd, J=2.5, 8.7Hz), 8.32 (1H, d, J=2.6Hz), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 418 (M+H).

[Example 2-14]

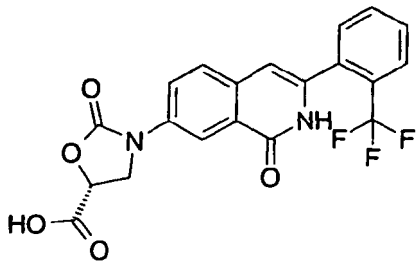
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid amide

Step A

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid

[0408]

[Formula 112]



[0409] Using the (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-carboxylic acid methyl obtained in step A of Example 2-12 as a raw material, the captioned compound was prepared by a method similar to that of Example 2-4.

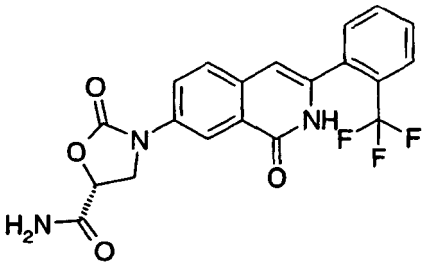
[0410] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 4.24 (1H, dd, J=5.4, 9.2Hz), 4.50 (1H, t, J=9.5Hz), 5.25 (1H, dd, J=5.4, 9.7Hz), 6.50 (1H, s), 7.62-7.90 (5H, m), 8.01 (1H, dd, J=2.5, 8.8Hz), 8.30 (1H, d, J=2.3Hz), 11.63 (1H, brs), 13.64 (1H, brs)
ESI (LC-MS positive mode) m/z 419 (M+H).

Step B

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid amide

[0411]

[Formula 113]



[0412] Using the (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-carboxylic acid obtained in step A as a synthetic material, the captioned compound was synthesized by a method similar to that of Example 2-5.

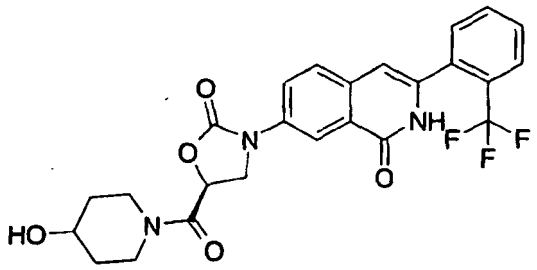
[0413] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 4.14 (1H, dd, J=6.0, 8.6Hz), 4.44 (1H, t, J=9.3Hz), 5.10 (1H, dd, J=6.0, 9.3Hz), 6.50 (1H, s), 7.63-7.92 (5H, m), 8.02 (1H, dd, J=1.5, 8.7Hz), 8.33 (1H, d, J=1.5Hz), 11.65 (1H, brs)
ESI (LC-MS positive mode) m/z 418 (M+H).

[Example 2-15]

7-[(S)-5-(4-Hydroxypiperidine-1-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0414]

[Formula 114]



[0415] Using the (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-carboxylic acid obtained in step A of Example 2-13 as a raw material, the captioned compound was synthesized by a method similar to that of Example 2-5.

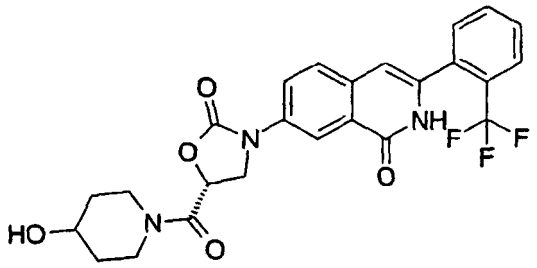
[0416] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 1.30-1.60 (2H, m), 1.70-1.90 (2H, m), 3.00-3.40 (2H, m), 3.70-4.00 (3H, m), 4.25-4.34 (1H, m), 4.35-4.45 (1H, m), 4.78 (1H, d, J=4.0Hz), 5.62-5.75 (1H, m), 6.50 (1H, s), 7.60-7.83 (4H, m), 7.84-7.91 (1H, m), 8.00-8.10 (1H, m), 8.27 (1H, dd, J=2.3, 6.1Hz), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 502 (M+H).

[Example 2-16]

7-[(R)-5-(4-Hydroxypiperidine-1-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0417]

[Formula 115]



[0418] Using the (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-carboxylic acid obtained in step A of Example 2-14 as a raw material, the captioned compound was synthesized by a method similar to that of Example 2-5.

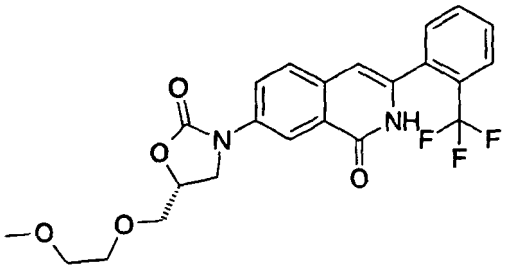
[0419] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 1.33-1.47 (2H, m), 1.75-1.87 (2H, m), 3.73-3.76 (1H, m), 4.11 (4H, dd, J=0.8, 5.3Hz), 4.14-4.44 (2H, m), 4.83 (1H, d, J=3.8Hz), 5.69 (1H, dd, J=5.3, 8.6Hz), 6.50 (1H, s), 7.63-7.81 (4H, m), 7.87 (1H, d, J=7.6Hz), 8.07 (1H, d, 8.7Hz), 8.27 (1H, d, 4.0Hz), 11.65 (1H, brs)
ESI (LC-MS positive mode) m/z 502 (M+H).

[Example 2-17]

7-[(R)-5-(2-Methoxyethoxymethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0420]

[Formula 116]



[0421] Sodium hydride (7.5 mg, 0.18 mmol) was added to a DMF solution (0.5 ml) that contained 2-methoxymethanol (14.2 mg, 0.18 mmol) under cooling on ice, and the obtained mixture was then stirred at 0°C for 30 minutes. The methanesulfonic acid (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (30.0 mg, 0.06 mmol) obtained in step A of Example 2-22 was added to this reaction solution under cooling on ice, and the obtained mixture was then stirred at 0°C for 30 minutes. Thereafter, water was added to the reaction solution, and the mixture was then extracted with methylene chloride. The extract was washed with water and a saturated saline solution, and was then dried over anhydrous magnesium sulfate. Thereafter, the solvent distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 40 : 1), so as to obtain 7-[(R)-5-(2-methoxyethoxymethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (3.1 mg, 11%) in the form of a colorless solid.

[0422] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 3.23 (3H, s), 3.45-3.55 (2H, m), 3.60-3.80 (4H, m), 3.90-4.00 (1H, m), 4.20-4.30 (1H, m), 4.80-5.00 (1H, m), 6.48 (1H, s), 7.60-7.90 (5H, m), 8.07 (1H, d, J=8.5Hz), 8.23 (1H, s), 11.59 (1H, brs)
ESI (LC-MS positive mode) m/z 463 (M+H).

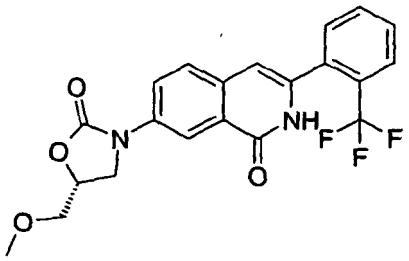
[0423] The following compounds (Examples 2-18 to 2-20) were synthesized by a reaction similar to that of Example 2-17.

[Example 2-18]

7-((R)-5-Methoxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0424]

[Formula 117]



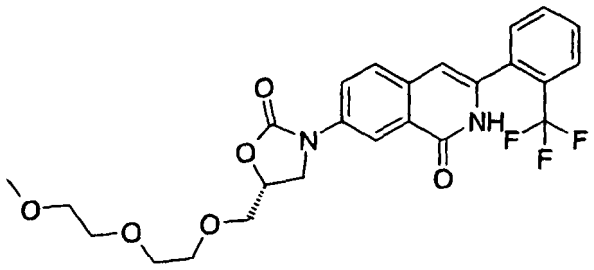
[0425] ^{1}H-NMR (300MHz, $CDCl_3$) δ (ppm): 3.45 (3H, s), 3.68-3.74 (2H, m), 4.10 (1H, t, J=6.0Hz), 4.20 (1H, t, J=8.9Hz), 4.75-4.90 (1H, m), 6.52 (1H, s), 7.5307.70 (4H, m), 7.82 (1H, d, J=7.5Hz), 7.94 (1H, d, J=2.4Hz), 8.60 (1H, brs), 8.62 (1H, dd, J=2.4, 8.8Hz)
ESI (LC-MS positive mode) m/z 419 (M+H).

[Example 2-19]

7-{(R)-5-[2-(2-Methoxyethoxy)ethoxymethyl]-2-oxooxazolidin-3-yl}-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0426]

[Formula 118]



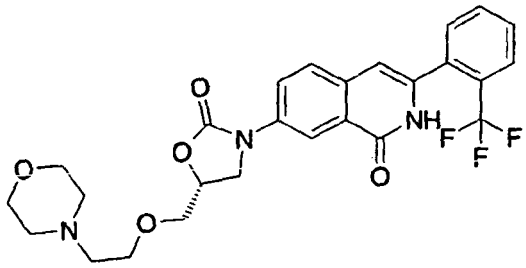
[0427] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 2.52-2.56 (1H, m), 2.75 (1H, t, J=4.3Hz), 3.19-3.25 (4H, m), 3.36-3.41 (2H, m), 3.46-3.50 (2H, m), 3.56-3.61 (2H, m), 3.63 (1H, dd, J=6.2, 15.2Hz), 4.04 (1H, dd, J=3.6, 15.1Hz), 4.17-4.22 (2H, m), 6.50 (1H, s), 7.60-7.89 (6H, m), 8.12 (1H, s), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 507 (M+H).

[Example 2-20]

7-[(R)-5-(2-Morpholin-4-ylethoxymethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0428]

[Formula 119]



[0429] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 2.32-2.37 (4H, m), 2.53-2.56 (3H, m), 2.75 (1H, t, J=4.6Hz), 3.21-3.26 (1H, m), 3.48-3.53 (4H, m), 3.63 (1H, dd, J=6.1, 14.7Hz), 4.03 (1H, dd, J=3.5, 15.0Hz), 4.15-4.21 (2H, m), 6.50 (1H, s), 7.60-7.81 (5H, m), 7.88 (1H, d, J=8.7Hz), 8.12 (1H, s), 11.62 (1H, brs)
ESI (LC-MS positive mode) m/z 518 (M+H).

[Example 2-21]

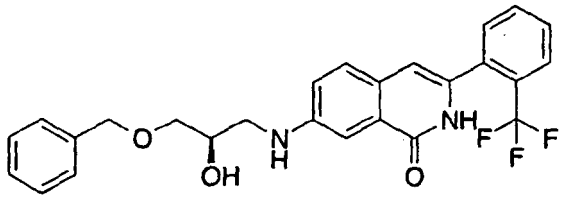
7-((R)-5-Benzyloxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

7-((R)-3-Benzyloxy-2-hydroxypropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0430]

[Formula 120]



[0431] Using the 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step C of Example 1-1 and (R)-benzyl glycidyl ether as raw materials, the captioned compound was synthesized by a reaction similar to step A of Example 2-1.

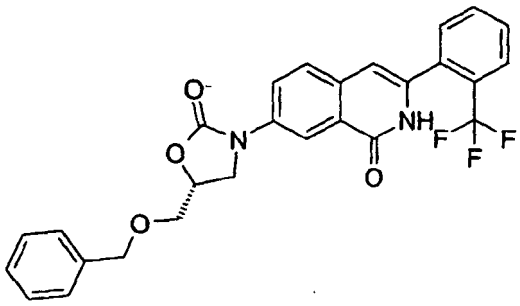
[0432] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 2.55 (1H, brs), 3.29 (1H, dd, J=7.4, 12.8Hz), 3.45 (1H, dd, J=4.0, 12.9Hz), 3.56 (1H, dd, J=6.3, 9.6Hz), 3.66 (1H, dd, J=3.7, 9.5Hz), 4.08-4.18 (1H, m), 4.59 (2H, s), 6.43 (1H, s), 7.03 (1H, dd, J=2.6, 8.5Hz), 7.27-7.41 (6H, m), 7.49-7.67 (4H, m), 7.77-7.82 (1H, m), 8.37 (1H, brs)
ESI (LC-MS positive mode) m/z 469 (M+H).

Step B

7-((R)-5-Benzyloxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0433]

[Formula 121]



[0434] Using the 7-((R)-3-benzyloxy-2-hydroxypropylamino)-3-(2- trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step A as a raw material, the captioned compound was synthesized by a reaction similar to step B of Example 2-1.

[0435] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 3.73 (1H, dd, J=4.3, 10.6Hz), 3.78 (1H, dd, J=4.5, 10.6Hz), 4.07 (1H, dd, J=6.3, 9.2Hz), 4.19 (1H, t, J=8.9Hz), 4.60 (1H, d, J=12.0Hz), 4.66 (1H, d, J=12.0Hz), 4.79-4.89 (1H, m), 6.52 (1H, s), 7.27-7.39 (5H, m), 7.54-7:69 (4H, m), 7.77-7.82 (1H, m), 7.90 (1H, d, J=2.5Hz), 8.58 (1H, dd, J=2.5, 8.9Hz), 9.08 (1H, brs)
ESI (LC-MS positive mode) m/z 495 (M+H).

[Example 2-22]

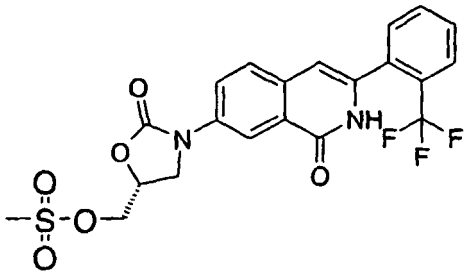
7-[(S)-2-Oxo-5-(piperidin-1-ylmethyl)oxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl methanesulfonate

[0436]

[Formula 122]



[0437] Using the 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step B of Example 1-14 as a raw material, the captioned compound was synthesized by a method similar to step C of Example 1-30.

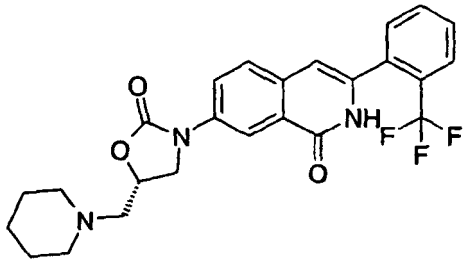
[0438] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 3.13 (3H, s), 4.11 (1H, dd, J=5.6, 8.9Hz), 4.33 (1H, t, J=9.2Hz), 4.47 (1H, dd, J=4.5, 11.5Hz), 4.55 (1H, dd, J=3.9, 11.6Hz), 4.92-5.08 (1H, m), 6.53 (1H, s), 7.54-7.74 (4H, m), 7.80-7.88 (1H, m), 7.98 (1H, d, J=2.6Hz), 8.47 (1H, brs), 8.53 (1H, dd, J=2.5, 8.9Hz)
ESI (LC-MS positive mode) m/z 483 (M+H).

Step B

7-[(S)-2-Oxo-5-(piperidin-1-ylmethyl)oxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0439]

[Formula 123]



[0440] The methanesulfonic acid (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (20 mg, 0.0415 mmol) obtained in step A was dissolved in acetonitrile (0.1 ml). Thereafter, piperidine (8.2 μl) was added to the solution, and the obtained mixture was stirred under heating to reflux for 12 hours. Thereafter, the reaction solution was concentrated, and the obtained residue was then purified by silica gel column chromatography (methylene chloride : methanol = 30 : 1), so as to obtain 7-((S)-2-oxo-5-piperidin-1-ylmethyloxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (14.3 mg, 73%) in the form of a colorless amorphous substance.

[0441] ^{1}H-NMR (270MHz, CD_3OD) δ (ppm): 1.44-1.54 (2H, m), 1.56-1.69 (4H, m), 2.55-2.65 (4H, m), 2.70-2.80 (2H, m), 3.93 (1H, dd, J=7.3, 8.9Hz), 4.30 (1H, t, J=8.9Hz), 4.90-4.99 (1H, m), 6.60 (1H, s), 7.58-7.77 (4H, m), 7.82-7.88 (1H, m), 8.23 (1H, d, J=2.4Hz), 8.27 (1H, dd, J=2.4, 8.6Hz)
ESI (LC-MS positive mode) m/z 472 (M+H).

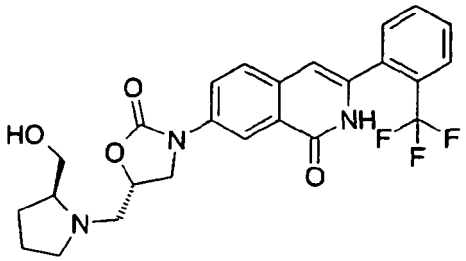
[0442] The following compounds (Examples 2-23 to 2-30) were synthesized by a method similar to that of Example 2-22.

[Example 2-23]

7-[(S)-5-((S)-2-Hydroxymethylpyrrolidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0443]

[Formula 124]



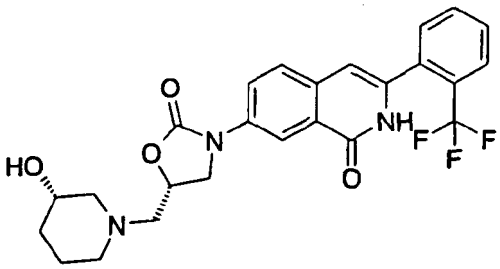
[0444] ^{1}H-NMR (500MHz, $CDCl_3$) δ (ppm): 1.66-1.91 (5H, m), 2.49 (1H, q, J=8.4Hz), 2.76-2.81 (1H, m), 2.83 (1H, dd, J=4.0, 13.8Hz)', 3.21 (1H, dd, J=6.5, 13.8Hz), 3.24-3.28 (1H, m), 3.45 (1H, dd, J=3.8, 10.9Hz), 3.65 (1H, dd, J=3.7, 10.9Hz), 4.00 (1H, t, J=8.0Hz), 4.16 (1H, t, J=8.8Hz), 4.80-4.86 (1H, m), 6.49 (1H, s), 7.54-7.67 (4H, m), 7.78 (1H, d, J=8.2Hz), 7.87 (1H, d, J=2.1Hz), 8.52 (1H, dd, J=2.4, 8.8Hz), 9.29 (1H, brs)
ESI (LC-MS positive mode) m/z 488 (M+H).

[Example 2-24]

7-[(S)-5-((S)-(3-Hydroxypiperidin-1-yl)methyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0445]

[Formula 125]



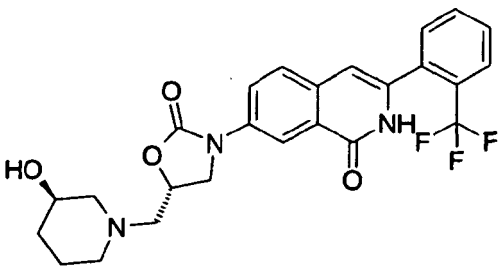
[0446] ^{1}H-NMR (500MHz, $CDCl_3$) δ (ppm): 1.48-1.59 (2H, m), 1.60-1.72 (1H, m), 1.76-1.83 (1H, m), 2.40-2.50 (4H, m), 2.58-2.83 (3H, m), 3.79-3.81 (1H, m), 3.92 (1H, dd, J=7.1, 8.9Hz), 4.20 (1H, t, J=8.8Hz), 4.80-4.87 (1H, m), 6.51 (1H, s), 7.55-7.68 (4H, m), 7.80 (1H, d, J=7.8Hz), 7.90 (1H, d, J=2.3Hz), 8.55 (1H, dd, J=2.5, 8.8Hz), 9.08 (1H, brs)
ESI (LC-MS positive mode) m/z 488 (M+H).

[Example 2-25]

7-[(S)-5-((R)-3-Hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0447]

[Formula 126]



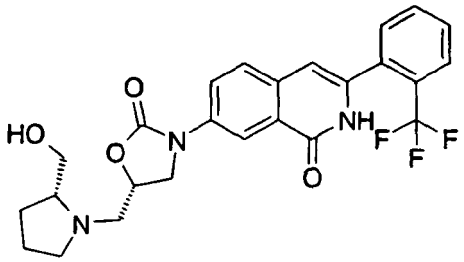
[0448] ^{1}H-NMR (500MHz, $CDCl_3$) δ (ppm): 1.50-1.61 (2H, m), 1.62-1.70 (1H, m), 1.78-1.86 (1H, m), 2.50-2.64 (4H, m), 2.65-2.70 (1H, m), 2.74 (1H, dd, J=5.8, 13.6Hz), 2.83 (1H, dd, J=5.7, 13.6Hz), 3.82-3.84 (1H, m), 3.96 (1H, dd, J=7.0, 8.8Hz), 4.22 (1H, t, J=8.8Hz), 4.78-4.86 (1H, m), 6.53 (1H, s), 7.54-7.70 (4H, m), 7.82 (1H, d, J=7.8Hz), 7.93 (1H, s), 8.60-8.63 (2H, m)
ESI (LC-MS positive mode) m/z 488 (M+H).

[Example 2-26]

7-[(S)-5-((R)-(2-Hydroxymethylpyrrolidin-1-yl)methyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0449]

[Formula 127]



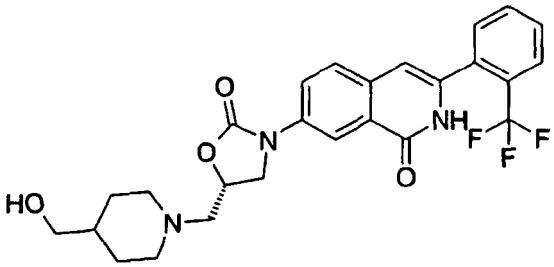
[0450] ^{1}H-NMR (500MHz, $CDCl_3$) δ (ppm): 1.68-1.91 (5H, m), 2.47 (1H, q, J=8.4Hz), 2.72-2.76 (1H, m), 2.83 (1H, dd, J=6.3, 13.0Hz), 3.14 (1H, dd, J=6.2, 13.1Hz), 3.24-3.28 (1H, m), 3.46 (1H, dd, J=3.1, 11.4Hz), 3.65 (1H, dd, J=3.6, 11.0Hz), 3.93 (1H, t, J=8.0Hz), 4.23 (1H, t, J=8.9Hz), 4.78-4.84 (1H, m), 6.49 (1H, s), 7.54-7.67 (4H, m), 7.79 (1H, d, J=7.8Hz), 7.89 (1H, d, J=2.3Hz), 8.51 (1H, dd, J=2.5, 8.8Hz), 9.34 (1H, brs)
ESI (LC-MS positive mode) m/z 488 (M+H).

[Example 2-27]

7-[(S)-5-((4-Hydroxymethylpiperidin-1-yl)methyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0451]

[Formula 128]



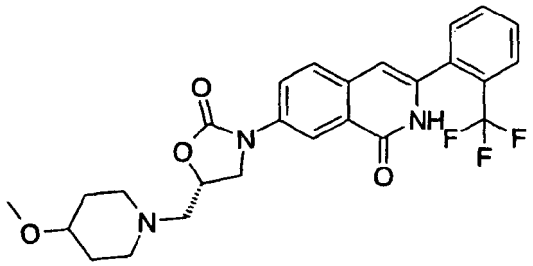
[0452] ^{1}H-NMR (500MHz, $CDCl_3$) δ (ppm): 1.20-1.40 (3H, m), 1.45-1.60 (1H, m), 1.65-1.80 (2H, m), 2.10-2.37 (2H, m), 2.70-2.90 (2H, m), 2.91-3.15 (2H, m), 3.51 (2H, d, J=6.3Hz), 3.99 (1H, dd, J=7.1, 8.9Hz), 4.21 (1H, t, J=8.9Hz), 4.80-5.00 (1H, m), 6.53 (1H, s), 7.54-7.71 (4H, m), 7.83 (1H, d, J=7.4Hz), 7.94 (1H, d, J=2.3Hz), 8.63 (1H, dd, J=2.4, 8.8Hz), 8.67 (1H, brs)
ESI (LC-MS positive mode) m/z 502 (M+H).

[Example 2-28]

7-[(S)-5-(4-Methoxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0453]

[Formula 129]



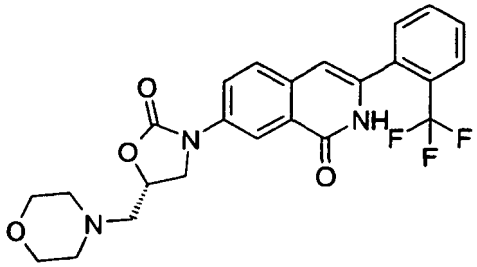
[0454] ^{1}H-NMR (300MHz, $CDCl_3$) δ (ppm): 1.50-1.70 (2H, m), 1.80-2.00 (2H, m), 2.33-2.40 (2H, m), 2.70-2.85 (4H, m), 3.20-3.30 (1H, m), 3.34 (3H, s), 2.98 (1H, dd, J=6.9, 9.1Hz), 4.20 (1H, t, J=9.1Hz), 4.75-4.90 (1H, m), 6.52 (1H, s), 7.50-7.70 (4H, m), 7.82 (1H, d, J=8.2Hz), 7.92 (1H, d, J=2.5Hz), 8.60 (1H, dd, J=2.6, 8.8Hz), 8.86 (1H, brs)
ESI (LC-MS positive mode) m/z 502 (M+H).

[Example 2-29]

7-[(S)-(5-Morpholin-4-yl)methyl-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0455]

[Formula 130]



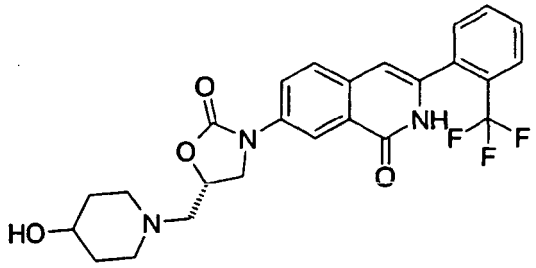
[0456] ^{1}H-NMR (270MHz, CD_3OD) δ (ppm): 2.60-2.69 (4H, m), 2.76-2.83 (2H, m), 3.65-3.75 (4H, m), 3.98 (1H, dd, J=7.0, 9.2Hz), 4.30 (1H, t, J=8.8Hz), 4.88-5.01 (1H, m), 6.60 (1H, s), 7.59-7.78 (4H, m), 7.83-7.87 (1H, m), 8.23 (1H, d, J=2.4Hz), 8.28 (1H, dd, J=2.6, 8.8Hz)
ESI (LC-MS positive mode) m/z 474 (M+H).

[Example 2-30]

7-{(S)-[(4-Hydroxypiperidin-1-yl)methyl]-2-oxooxazolidin-3-yl}-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0457]

[Formula 131]



[0458] ^{1}H-NMR (270MHz, CD_3OD) δ (ppm): 1.54-1.66 (2H, m), 1.81-1.91 (2H, m), 2.31-2.43 (2H, m), 2.75-2.82 (2H, m), 2.83-3.00 (2H, m), 3.57-3.66 (1H, m), 3.94 (1H, dd, J=7.2, 9.0Hz), 4.29 (1H, t, J=8.8Hz), 4.86-4.99 (1H, m), 6.59 (1H, s), 7.58-7.76 (4H, m), 7.82-7.88 (1H, m), 8.23 (1H, d, J=2.7Hz), 8.27 (1H, dd, J=2.4, 8.9Hz)
ESI (LC-MS positive mode) m/z 488 (M+H).

[Example 2-31]

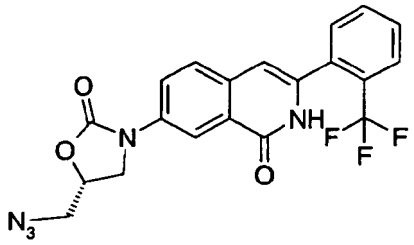
N-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}methanesulfonamide

Step A

7-((S)-5-Azidomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0459]

[Formula 132]



[0460] Using the methanesulfonic acid (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl obtained in step A of Example 2-22 as a raw material, the captioned compound was synthesized by a reaction similar to step D of Example 1-30.

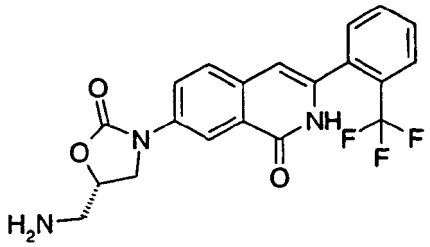
[0461] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 3.64 (dd, J=4.21, 12.97Hz, 1H), 3.75 (dd, J=4.25, 13.37Hz, 1H), 4.02 (dd, J=6.21, 9.13Hz, 1H), 4.23 (t, J=9.09Hz, 1H), 4.81-4.89 (m, 1H), 6.52 (s, 1H), 7.53-7.69 (m, 4H), 7.81 (d, J=7.76Hz, 1H), 7.93 (d, J=2.28Hz, 1H), 8.56 (dd, J=2.38, 8.80Hz, 1H), 9.09 (brs, 1H).

Step B

7-((S)-5-Aminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0462]

[Formula 133]



[0463] Using the 7-((S)-5-azidomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one prepared in step A as a raw material, the captioned compound was synthesized by a reaction similar to that of Example 1-31.

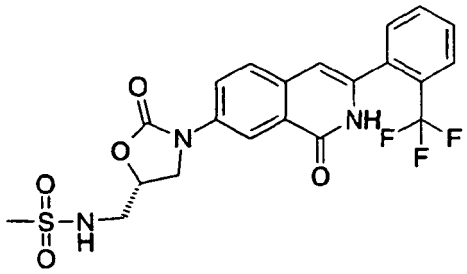
[0464] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 1.51 (brs, 2H), 3.02 (dd, J=5.66, 13.68Hz, 1H), 3.16 (dd, J=3.91, 13.90Hz, 1H), 4.03 (dd, J=6.85, 8.79Hz, 1H), 4.19 (t, J=9.24Hz, 1H), 4.70-4.78 (m, 1H), 6.50 (s, 1H), 7.54-7.70 (m, 4H), 7.82 (d, J=7.21Hz, 1H), 7.94 (d, J=2.34Hz, 1H), 8.60 (dd, J=2.62, 9.14Hz, 1H), 8.64 (brs, 1H).

Step C

N-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}methanesulfonamide

[0465]

[Formula 134]



[0466] The 7-((S)-5-aminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (30 mg, 0.07 mmol) obtained in step B was dissolved in methylene chloride (0.3 ml). Thereafter, pyridine (30 μl, 0.37 mmol) and methanesulfonyl chloride (5.8 μl, 0.07 mmol) were added to the solution, and the obtained mixture was stirred at 0°C for 30 minutes. Thereafter, water was added to the reaction solution, and the mixture was then extracted with methylene chloride. The extract was washed with water and a saturated saline solution, and was then dried over magnesium sulfate. Thereafter, the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 20 : 1), so as to obtain N-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}methanesulfonamide (12.6 mg, 36%) in the form of a colorless solid.

[0467] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 2.96 (3H, s), 3.30-3.45 (2H, m), 3.97 (1H, dd, J=6.2, 9.1Hz), 4.27 (1H, t, J=9.1Hz), 4.75-4.87 (1H, m), 6.49 (1H, s), 7.63 (1H, d, J=7.6Hz), 7.68-7.80 (3H, m), 7.87 (1H, d, J=7.7Hz), 8.09 (1H, dd, J=2.4, 8.4Hz), 8.22 (1H, d, J=2.4Hz)
ESI (LC-MS positive mode) m/z 482 (M+H).

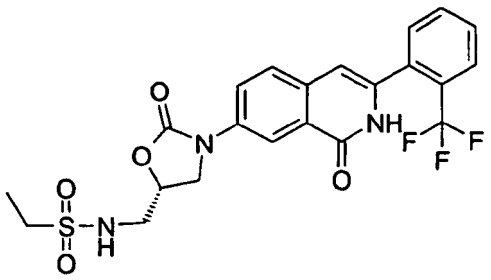
[0468] The following compounds (Examples 2-32 to 2-36) were synthesized by a reaction similar to that of Example 2-31.

[Example 2-32]

Ethanesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl} amide

[0469]

[Formula 135]



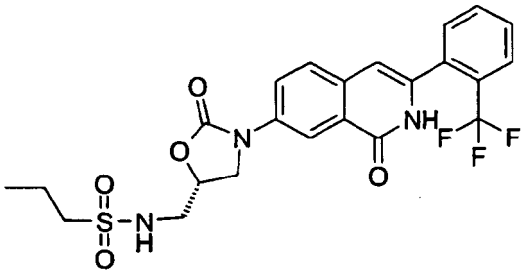
[0470] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 1.20 (3H, t, J=7.4Hz), 3.06 (2H, q, J=7.4Hz), 3.30-3.50 (2H, m), 3.98 (1H, dd, J=6.4, 8.6Hz), 4.26 (1H, t, J=8.6Hz), 4.75-4.80 (1H, m), 6.48 (1H, s), 7.54 (1H, brs), 7.63 (1H, d, J=6.5Hz), 7.64-7.80 (3H, m), 7.87 (1H, d, J=7.7Hz), 8.07-8.11 (1H, m), 8.20 (1H, s), 11.60 (1H, brs)
ESI (LC-MS positive mode) m/z 496 (M+H).

[Example 2-33]

Propane-1-sulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide

[0471]

[Formula 136]



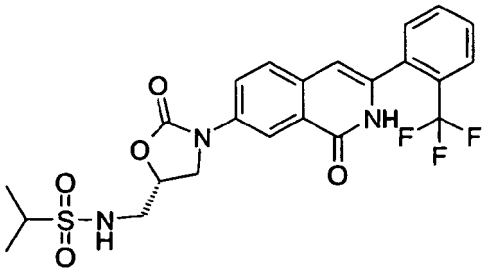
[0472] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 0.97 (3H, t, J=7.5Hz), 1.60-1.75 (2H, m), 3.00 (2H, t, J=7.6Hz), 3.30-3.50 (2H, m), 3.98 (1H, dd, J=5.9, 9.0Hz), 4.26 (1H, t, J=9.2Hz), 4.70-4.90 (1H, m), 6.49 (1H, s), 7.54 (1H, brs), 7.63 (1H, d, J=7.2Hz), 7.68-7.81 (3H, m), 7.87 (1H, d, J=7.6Hz), 8.09 (1H, dd, J=2.5, 8.8Hz), 8.21 (1H, d, J=1.9Hz), 11.60 (1H, brs)
ESI (LC-MS positive mode) m/z 510 (M+H).

[Example 2-34]

Propane-2-sulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide

[0473]

[Formula 137]



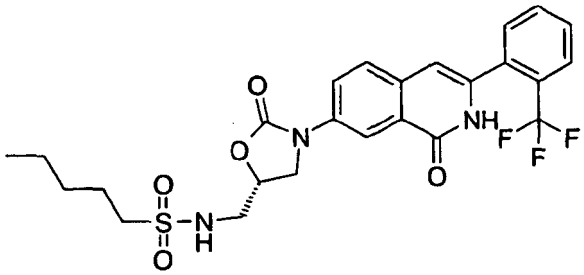
[0474] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 1.21-1.25 (6H, m), 3.18-3.30 (1H, m), 3.31-3.50 (2H, m), 4.00 (1H, dd, J=5.9, 8.6Hz), 4.25 (1H, t, J=9.2Hz), 4.70-4.90 (1H, m), 6.49 (1H, s), 7.52 (1H, brs), 7.63 (1H, d, J=7.6Hz), 7.67-7.81 (3H, m), 7.86 (1H, d, J=7.3Hz), 8.09 (1H, dd, J=2.1, 9.0Hz), 8.21 (1H, d, J=2.3Hz), 11.60 (1H, brs)
ESI (LC-MS positive mode) m/z 510 (M+H).

[Example 2-35]

Pentane-1-sulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide

[0475]

[Formula 138]



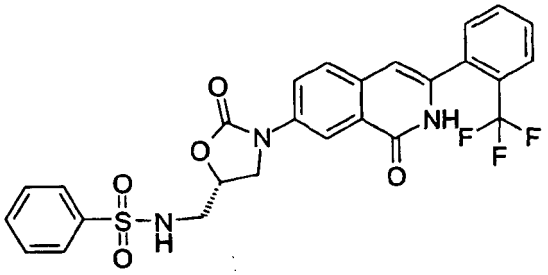
[0476] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 0.84 (3H, t, J=7.1Hz), 1.20-1.40 (4H, m), 1.60-1.70 (2H, m), 3.04 (2H, dd, J=6.5, 9.2Hz), 3.30-3.50 (2H, m), 3.98 (1H, dd, J=6.4, 9.3Hz), 4.25 (1H, t, J=8.8Hz), 4.75-4.90 (1H, m), 6.49 (1H, s), 7.53 (1H, brs), 7.63 (1H, d, J=6.9Hz), 7.68-7.81 (3H, m), 7.87 (1H, d, J=7.7Hz), 8.09 (1H, dd, J=2.4, 8.7Hz), 8.21 (1H, d, J=2.2Hz), 11.60 (1H, brs)
ESI (LC-MS positive mode) m/z 538 (M+H).

[Example 2-36]

N-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}benzenesulfonamide

[0477]

[Formula 139]



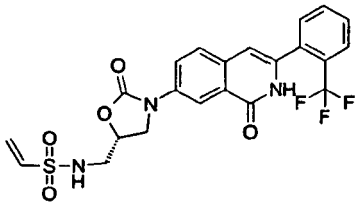
[0478] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 3.13 (1H, dd, J=5.1, 14.4Hz), 3.20 (1H, dd, J=4.9, 14.4Hz), 3.93 (1H, dd, J=6.3, 7.9Hz), 4.22 (1H, t, J=9.0Hz), 4.70-4.81 (1H, m), 6.48 (1H, s), 7.58-7.90 (10H, m), 8.06 (1H, dd, J=2.7, 8.7Hz), 8.18 (1H, d, J=2.3Hz)
ESI (LC-MS positive mode) m/z 544 (M+H).

[Example 2-37]

Ethylenesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl} amide

[0479]

[Formula 140]



[0480] The 7-((S)-5-aminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (40 mg, 0.1 mmol) prepared in step B of Example 2-31 was dissolved in methylene chloride (0.4 ml). Thereafter, pyridine (40 μl, 0.5 mmol) and 2-chloroehtanesulfonyl chloride (10.4 μl, 0.1 mmol) were added to the solution, and the obtained mixture was then stirred at 0°C for 30 minutes. Thereafter, water was added to the reaction solution, and the obtained mixture was then extracted with methylene chloride. The extract was washed with water and a saturated saline solution, and was then dried over magnesium sulfate. Thereafter, the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 20 : 1), so as to obtain ethylenesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl} amide (2.7 mg, 10%) in the form of a colorless solid.
[0481] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 3.20-3.35 (2H, m), 3.93-4.00 (1H, m), 4.26 (1H, t, J=9.0Hz), 4.70-4.87 (1H, m), 6.00 (1H, d, J=10.3Hz), 6.07 (1H, d, J=16.6Hz), 6.49 (1H, s), 6.76 (1H, dd, J=10.3, 16.6Hz), 7.63 (1H, d, J=7.2Hz), 7.67-7.88 (4H, m), 8.05-8.10 (1H, m), 8.21 (1H, d, J=1.4Hz) lacking 2H
ESI (LC-MS positive mode) m/z 494 (M+H).

[Example 2-38]

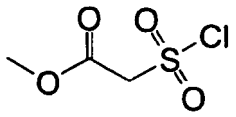
2-Hydroxyethanesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide

Step A

Methyl chlorosulfonylacetate

[0482]

[Formula 141]



[0483] Chlorosulfonylacetyl chloride (900 mg, 5.08 mmol) was dissolved in diethyl ether (5 ml). Thereafter, methanol (206 μl, 5.08 mmol) was added to the solution at 0°C, and the obtained mixture was then stirred at 0°C for 3 hours. Thereafter, the temperature of the reaction solution was returned to a room temperature, and the solvent was then distilled away under reduced pressure, so as to obtain methyl chlorosulfonyl acetate (850 mg, 97%) in the form of a colorless oil substance.

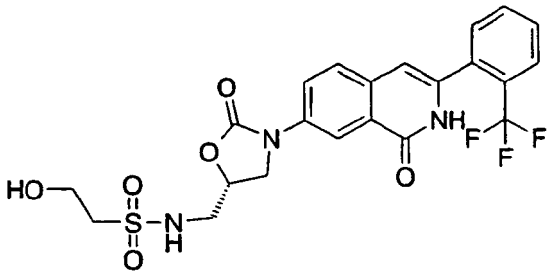
[0484] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 3.91 (s, 3H), 4.61 (s, 2H).

Step B

2-Hydroxyethanesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide

[0485]

[Formula 142]



[0486] The 7-((S)-5-aminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (20 mg, 0.05 mmol) prepared in step B of Example 2-31 was dissolved in methylene chloride (0.2 ml). Thereafter, the methyl chlorosulfonyl acetate (10.5 μl, 0.05 mmol) obtained in step A was added to the solution under cooling on ice, and the obtained mixture was stirred at 0°C for 30 minutes. Thereafter, water was added to the reaction solution, and the mixture was then extracted with methylene chloride. The extract was washed with water and a saline solution, and was then dried over anhydrous magnesium sulfate. Thereafter, the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 20: 1), so as to obtain a colorless solid (10 mg).

[0487] This colorless solid (10 mg, 0.02 mmol) was dissolved in THF (0.2 ml). Thereafter, lithium tetrahydroborate (2 mg, 0.10 mmol) was added to the solution, and the obtained mixture was stirred at a room temperature for 30 minutes. Thereafter, water was added to the reaction solution, and the mixture was then extracted with methylene chloride. The extract was washed with water and a saturated saline solution, and was then dried over anhydrous magnesium sulfate. Thereafter, the solvent was distilled away. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 10 : 1), so as to obtain 2-hydroxyethanesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide (2.6 mg, 10%) in the form of a colorless solid.

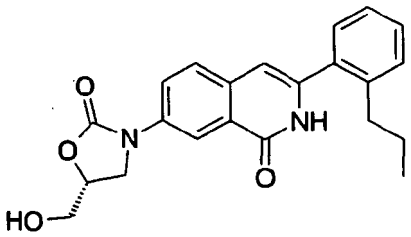
[0488] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 3.06 (2H, t, J=6.4Hz), 3.23-3.35 (2H, m), 3.71 (2H, t, J=6.3Hz), 3.98-4.03 (1H, m), 4.21 (1H, m), 4.72-4.78 (1H, m), 6.46 (1H, s), 7.60-7.87 (5H, m), 8.06 (1H, dd, J=2.0, 8.9Hz), 8.20 (1H, d, J=1.8Hz) ESI (LC-MS positive mode) m/z 512 (M+H).

[Example 2-39]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-propylphenyl)-2H-isoquinolin-1-one

[0489]

[Formula 143]



[0490] 10 wt % Palladium carbon (10 mg) was added to a methanol solution (5 ml) that contained the 3-(2-allylphenyl) 7-((R)-5-hydroxymethyl-2- -oxazolidin-3-yl)-2H-isoquinolin-1-one (25 mg, 0.03 mmol) obtained in Example 1-48. The obtained mixture was stirred in a hydrogen atmosphere at a room temperature for 2 hours. Thereafter, the reaction mixture was filtrated, and the filtrate was then concentrated under reduced pressure, so as to obtain 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-propylphenyl)-2H-isoquinolin-1-one (8.1 mg, 58%) in the form of white powders.

[0491] ^{1}H-NMR (270MHz, CD_3OD) δ: 0.83 (3H, t, J=7.6Hz), 1.55 (2H, sext, J=7.6Hz), 2.66 (2H, t, J=7.6Hz), 3.69-3.94 (2H, m), 4.03-4.12 (1H, m), 4.21-4.32 (1H, m), 4.92-4.71 (1H, m), 6.58 (1H, s), 7.26-7.43 (4H, m), 7.71 (1H, d, J=8.6Hz), 8.20-8.31 (2H, m)
ESI (LC-MS positive mode) m/z 379 (M+H).

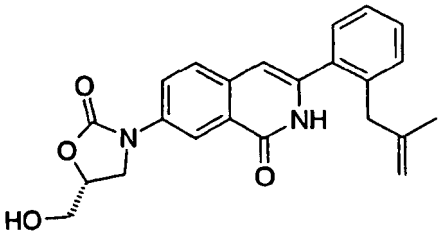
[0492] The following compounds (Examples 2-40 to 2-43) were synthesized by a reaction similar to that of Example 1-19.

[Example 2-40]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-methylallyl)phenyl]-2H-isoquinolin-1-one

[0493]

[Formula 144]



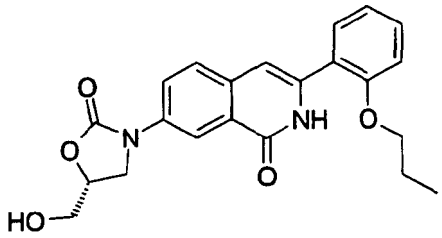
[0494] ^{1}H-NMR (270MHz, $CDCl_3$) δ: 1.79 (3H, s), 3.35 (3H, s), 3.76-3.87 (1H, m), 4.00-4.09 (1H, m), 4.11-4.26 (2H, m), 4.49 (1H, s), 4.74-4.86 (1H, m), 4.96 (1H, s), 6.49 (1H, s), 7.24-7.56 (5H, m), 7.90 (1H, d, J=2.5Hz), 8.46 (1H, dd, J=8.9, 2.5Hz), 8.89 (1H, s)
ESI (LC-MS positive mode) m/z 391 (M+H).

[Example 2-41]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-propoxyphenyl)-2H-isoquinolin-1-one

[0495]

[Formula 145]



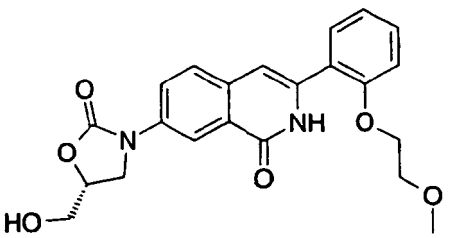
[0496] ^{1}H-NMR (270MHz, $CDCl_3$) δ: 1.06 (3H, t, J=7.3Hz), 1.89 (2H, sext, J=7.3Hz), 3.75-4.05 (2H, m), 4.05 (2H, t, J=7.3Hz), 4.13-4.25 (2H, m), 4.74-4.87 (1H, m), 6.73 (1H, s), 6.92-7.13 (2H, m), 7.31-7.45 (1H, m), 7.50-7.64 (2H, m), 7.89 (1H, d, J=2.5Hz), 8.49 (1H, dd, J=8.9, 2.5Hz), 9.77 (1H, s)
ESI (LC-MS positive mode) m/z 395 (M+H).

[Example 2-42]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-methoxyethoxy)phenyl]-2H-isoquinolin-1-one

[0497]

[Formula 146]



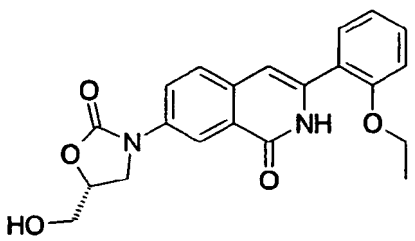
[0498] ^{1}H-NMR (270Hz, DMSO-d_6) δ: 3.29 (3H, s), 3.54-3.90 (3H, m), 3.90-4.03 (1H, m), 4.15-4.29 (2H, m), 4.70-4.80 (1H, m), 5.25 (1H, t, J=5.8Hz), 6.74 (1H, s), 7.06 (1H, t, J=7.5Hz), 7.17 (1H, d, J=7.9Hz), 7.35-7.55 (2H, m), 7.71 (1H, d, J=8.7Hz), 8.07 (1H, dd, J=8.7, 2.5Hz), 8.23 (1H, d, J=2.5Hz), 11.12 (1H, s)
ESI (LC-MS positive mode) m/z 411 (M+H).

[Example 2-43]

3-(2-Ethoxyphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0499]

[Formula 147]



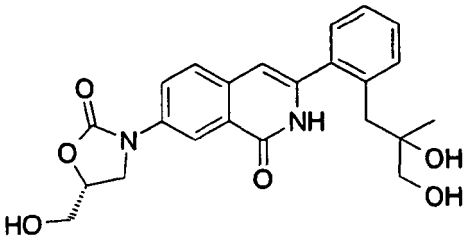
[0500] ^{1}H-NMR (270Hz, DMSO-d_6) δ: 1.31 (3H, t, J=6.8Hz), 3.50-3.77 (1H, m), 4.09 (2H, q, 6.8Hz), 4.15-4.27 (1H, m), 4.68-4.82 (1H, m), 6.65 (1H, s), 6.95-7.17 (2H, s), 7.33-7.50 (1H, m), 7.72 (1H, d, J=8.7Hz), 8.07 (1H, dd, J=8.7, 2.5Hz), 8.22 (1H, d, J=2.5Hz), 11.23 (1H, s)
ESI (LC-MS positive mode) m/z 381 (M+H).

[Example 2-44]

3-[2-(2,3-Dihydroxy-2-methylpropyl)phenyl]-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0501]

[Formula 148]



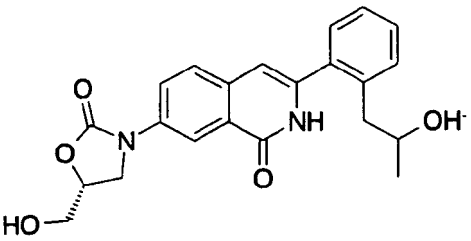
[0502] The 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-methylallyl)phenyl] -2H-isoquinolin-1-one (25 mg, 0.064 mmol) obtained in Example 2-40 was dissolved in THF (3 ml). Thereafter, an osumium oxide aqueous solution (0.1 mmol/ml, 0.032 ml, 0.0032 mmol) and a 3% hydrogen peroxide solution (0.218 ml, 0.19 mmol) were added to the solution, and the obtained mixture was then stirred at a room temperature for 9 hours. Thereafter, the reaction mixture was concentrated under reduced pressure, and the concentrate was then purified by preparative TLC (methylene chloride : methanol = 10 : 1), so as to obtain 3-[2-(2,3-dihydroxy-2-methylpropyl)phenyl]-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one (19.5 mg, 72%) in the form of white powders.
[0503] ^{1}H-NMR (270Hz, DMSO-d_6) δ: 1.06 (3H, s), 2.50-2.66 (1H, m), 2.92-3.09 (1H, m), 2.97 (1H, t, J=15.7Hz), 3.17 (3H, s), 3.55-3.77 (2H, m), 3.89-4.00 (1H, m), 4.12-4.26 (1H, m), 4.64-4.82 (1H, m), 6.50 (1H, s), 7.22-7.50 (4H, m), 7.68 (1H, d, J=8.9Hz), 8.04 (1H, dd, J=8.9, 2.2Hz), 8.16 (1H, d, J=2.2Hz)
ESI (LC-MS positive mode) m/z 425 (M+H).

[Example 2-45]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-hydroxypropyl)phenyl]-2H-isoquinolin-1-one

[0504]

[Formula 149]



[0505] The 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-methylallyl)phenyl] -2H-isoquinolin-1-one (25 mg, 0.064 mmol) obtained in Example 2-40 was dissolved in THF-water (3 ml-1ml). Thereafter, an osmium oxide aqueous solution (0.1 mmol/ml, 0.032 ml, 0.0032 mmol) and sodium periodate (55 mg, 0.26 mmol) were added to the solution, and the obtained mixture was then stirred at a room temperature for 15 hours. Thereafter, water was added to the reaction mixture, followed by extraction with methylene chloride. The extract was dried over magnesium sulfate, and

was then concentrated under reduced pressure. The thus obtained ketone body (24 mg) that was a roughly purified product was dissolved in methanol (2 ml) without being further purified. Thereafter, sodium borohydride (7.3 mg, 0.19 mmol) was added to the obtained solution under cooling on ice. The obtained mixture was stirred at a room temperature for 2 hours. Thereafter, the reaction solution was concentrated, and was then purified by preparative TLC (methylene chloride : methanol = 10 : 1), so as to obtain 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-hydroxypropyl)phenyl]-2H-isoquinolin-1-one (15.3 mg, 61%, two-stage) in the form of white powders.

[0506] ^{1}H-NMR (270MHz, DMSO-d_6) δ: 1.08 (3H, d, J=6.2Hz), 2.71 (2H, d, J=5.8Hz), 3.52-3.78 (2H, m), 3.82-4.03 (2H, m), 4.12-4.28 (1H, m), 4.68-4.83 (1H, m), 6.53 (1H, s), 7.23-7.48 (4H, m), 7.72 (1H, d, J=8.7Hz), 8.07 (1H, dd, J=8.7, 2.5Hz), 8.21 (1H, d, J=2.5Hz)
ESI (LC-MS positive mode) m/z 395 (M+H).

[Example 2-46]

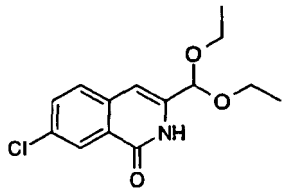
3-(1-Ethyl-1H-benzimidazol-2-yl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

Step A

7-Chloro-3-diethoxymethyl-2H-isoquinolin-1-one

[0507]

[Formula 150]



[0508] Using diethoxyacetonitrile as a raw material, the captioned compound was synthesized by a reaction similar to step B of Example 1-19.

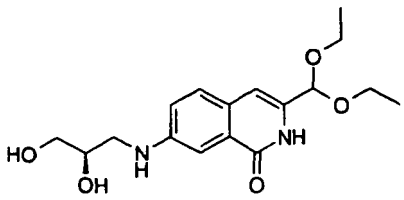
[0509] ^{1}H-NMR (DMSO-d_6) δ: 1.21-1.34 (6H, m), 3.50-3.76 (4H, m), 5.38 (1H, s), 6.55 (1H, s), 7.49 (1H, d, J=8.3Hz), 7.60 (1H, dd, J=2.0, 8.3Hz), 8.37 (1H, d, J=2.0Hz), 8.83 (1H, brs)
ESI (LC-MS positive mode) m/z 208 (M+H- $(C_2H_5)_2O$).

Step B

7-((R)-2,3-Hydroxypropylamino)-3-diethoxymethyl-2H-isoquinolin-1-one

[0510]

[Formula 151]



[0511] Using the 7-chloro-3-diethoxymethyl-2H-isoquinolin-1-one prepared in step A as a raw material, the captioned compound was synthesized by a reaction similar to that of Example 1-22.

[0512] ^{1}H-NMR (400MHz, CD_3OD) δ (ppm): 1.19-1.28 (6H, m), 3.19(1H, dd, J=7.32, 13.18Hz), 3.39 (1H, dd, J=4.88, 13.18Hz), 3.56-3.72 (6H, m), 3.86-3.96(1H,m), 5.36(1H, s), 6.67(1H, s), 7.15 (1H, dd, J=2.44, 8.79Hz), 7.36 (1H, d,

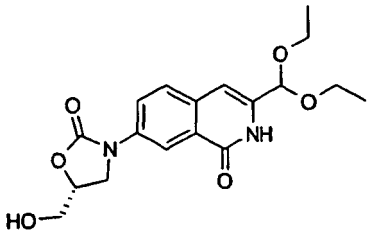
J=2.44Hz), 7.45 (1H, d, J=8.79Hz)
EI-MS m/z 336(M+).

Step C

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-diethoxymethyl-2H-isoquinolin-1-one

[0513]

[Formula 152]



[0514] Using the 7-((R)-2,3-hydroxypropylamino)-3-diethoxymethyl-2H-isoquinolin-1-one prepared in step B as a raw material, the captioned compound was synthesized by a reaction similar to step B of Example 1-13.

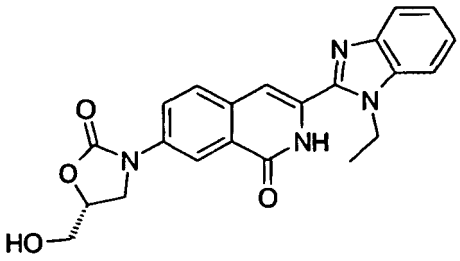
[0515] ^{1}H-NMR (400MHz, DMSO-d_6) δ (ppm): 1.18 (6H, t, J=6.84Hz), 3.51-3.65 (5H, m), 3.68-3.73 (1H, m), 3.93 (1H, dd, J=6.35, 8.79Hz), 4.17-4.21 (1H, m), 4.71-4.76 (1H, m), 5.21-5.24 (0.5H, brt), 5.31 (1H, s), 6.63 (1H, s), 7.76 (1H, d, J=8.79Hz), 8.05 (1H, dd, J=2.44, 8.79Hz), 8.21 (1H, d, J=2.44Hz)
11.1 (0.5H, brs)
EI-MS m/z 362 (M+).

Step D

3-(1-Ethyl-1H-benzimidazol-2-yl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0516]

[Formula 153]



[0517] Purified water (0.01 ml) and TFA (0.01 ml) were added to a dichloromethane solution that contained the 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-diethoxymethyl-2H-isoquinolin-1-one (3.3 mg, 0.009 mmol) prepared in step C. The obtained mixture was left at a room temperature for 30 minutes, and the reaction solution was concentrated. The obtained yellow solid and an ethanol solution that contained N-ethyl-1,2-benzenediamine (1.2 mg, 0.009 mmol), which was a known compound described in a publication (Leicester Polytech; Synthetic Communications, vol. 19(7-8), p. 1381, (1989)), were heated to reflux for 17 hours. Thereafter, the reaction solution was concentrated. The obtained residue was purified by preparative silica gel TLC (dichloromethane : methanol = 20 : 1), so as to obtain 3-(1-ethyl-1H-benzoimidazol-2-yl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one (2.7 mg, yield: 74%) in the form of a yellow solid.

[0518] ^{1}H-NMR (400MHz, DMSO-d_6) δ (ppm): 1.37 (3H, t, J=6.84Hz), 3.60-3.65 (1H, m), 3.70-3.75 (1H, m), 3.99 (1H, dd, J=5.86, 8.79Hz), 4.22-4.26 (1H, m), 4.43-4.48 (2H, m), 4.74-4.79 (1H, m), 5.25 (1H, t, J= 5.37Hz), 7.07 (1H, s),

7.29-7.39 (2H, m), 7.72-7.75 (2H, m), 7.91 (1H, d, J=8.79Hz), 8.15 (1H, dd, J=2.93, 8.79Hz), 8.32 (1H, d, J=2.44Hz), 11.36 (0.5H, brs) FAB-MS m/z 405 (M+H).

[Example 2-47]

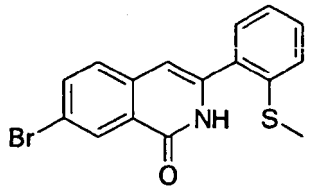
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methylsulfanylphenyl)-2H-isoquinolin-1-one

Step A

7-Bromo-3-(2-methylsulfanylphenyl)-2H-isoquinolin-1-one

[0519]

[Formula 154]



[0520] A crude product of 5-bromo-2,N,N-trimethylbenzamide was prepared from 2-bromo-5-methylbenzoic acid, which can be prepared by the method disclosed in WO2002/083066 or US4282365, according to a method similar to step A of Example 1, with the exception that purification was not carried out. The obtained compound was directly used for the next step.

[0521] Using the thus obtained 5-bromo-2,N,N-trimethylbenzamide as a raw material, 7-bromo-3-(2-methylsulfanylphenyl)-2H-isoquinolin-1-one was synthesized by a method similar to step B of Example 1.

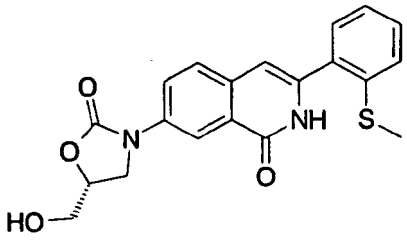
[0522] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.36 (3H, s), 6.56 (1H, s), 7.23-7.35 (4H, m), 7.64 (1H, d, J=8.5Hz), 7.83 (1H, dd, J=2.3, 8.5Hz), 8.27 (1H, d, J=2.3Hz), 11.60 (1H, brs)
ESI (LC-MS positive mode) m/z 346 (M), 348 (M+2H).

Step B

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methylsulfanylphenyl)-2H-isoquinolin-1-one

[0523]

[Formula 155]



[0524] Using the 7-bromo-3-(2-methylsulfanylphenyl)-2H-isoquinolin-1-one prepared in step A as a raw material, the captioned compound was synthesized by a reaction similar to step E of Example 1-1.

[0525] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.43 (3H, s), 3.61 (1H, dd, J=3.3, 12.0Hz), 3.72 (1H, dd, J=3.3, 12.0Hz), 3.96 (1H, dd, J=6.2, 8.8Hz), 4.21 (1H, dd, J=8.8, 8.8Hz), 4.71-4.78 (1H, m), 5.24 (1H, brs), 6.53 (1H, s), 7.26 (1H, ddd, J=1.5, 7.6, 7.6Hz), 7.36-7.49 (3H, m), 7.72 (1H, d, J=8.7Hz), 8.08 (1H, dd, J=2.4, 8.7Hz), 8.24 (1H, d, J=2.4Hz), 11.43 (1H, brs)
ESI (LC-MS positive mode) m/z 383 (M+H).

[Example 2-48]

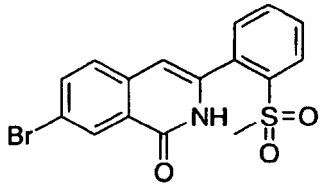
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methanesulfonylphenyl)-2H-isoquinolin-1-one

Step A

7-Bromo-3-(2-methanesulfonylphenyl)-2H-isoquinolin-1-one

[0526]

[Formula 156]



[0527] The 7-bromo-3-(2-methylsulfanylphenyl)-2H-isoquinolin-1-one (20.0 mg, 0.058 mmol) prepared in step B of Example 2-47, copper iodide (I) (11 mg, 0.058 mmol), (R)-5-hydroxymethyloxazolidin-2-one (6.8 mg, 0.058 mmol), and potassium carbonate (16.9 mg, 0.122 mmol) were suspended in 1,4-dioxane (1 ml). Thereafter, N,N'-dimethylethylenediamine (0.031 ml, 0.29 mmol) was added to the suspension. The obtained mixture was stirred under heating to reflux overnight. Thereafter, the reaction solution was cooled to a room temperature. A saturated ammonium chloride aqueous solution was added to the reaction solution, and the mixture was extracted with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 100 : 1 -> 30 : 1), so as to obtain 7-bromo-3-(2-methanesulfonylphenyl)- 2H-isoquinolin-1-one (7 mg, 32%) in the form of a colorless oil substance.

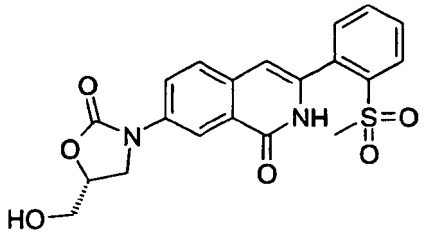
[0528] ESI (LC-MS positive mode) m/z 378 (M), 380 (M+2H).

Step B

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methanesulfonylphenyl)-2H-isoquinolin-1-one

[0529]

[Formula 157]



[0530] The 7-bromo-3-(2-methylsulfonylphenyl)-2H-isoquinolin-1-one (7 mg, 0.019 mmol) prepared in step A, copper iodide (I) (3.5 mg, 0.019 mmol), (R)-5-hydroxymethyloxazolidin-2-one (2.2 mg, 0.019 mmol), and potassium carbonate (5.3 mg, 0.039 mmol) were suspended in 1,4-dioxane (0.5 ml). Thereafter, N,N'-dimethylethylenediamine (0.01 ml, 0.093 mmol) was added to the suspension. The obtained mixture was stirred under heating to reflux overnight. The reaction solution was cooled to a room temperature. A saturated ammonium chloride aqueous solution was added to the reaction solution, and the mixture was extracted with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 100 : 1 -> 30 : 1), so as to obtain 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methanesulfonylphenyl)- 2H-isoquinolin-1-one (2 mg, 26%) in the form of a colorless oil substance.

[0531] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.15 (3H, s), 3.41-3.80 (2H, m), 3.93 (1H, dd, J=7.6, 7.6Hz), 4.19 (1H, dd, J=9.0, 9.0Hz), 4.69-4.80 (1H, m), 5.29 (1H, t, J=5.7Hz), 6.57 (1H, s), 7.59 (1H, d, J=7.3Hz), 7.69-7.83 (3H, m), 8.06 (1H, d, J=7.1Hz), 8.22 (1H, s), 11.55 (1H, brs)
ESI (LC-MS positive mode) m/z 415 (M+H).

[Example 2-49]

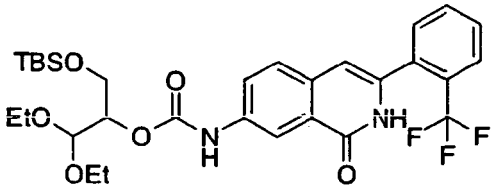
7-(4-Hydroxy-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

1-(tert-Butyldimethylsilyloxymethyl)-2,3-diethoxyethyl [1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl] carbamate

[0532]

[Formula 158]



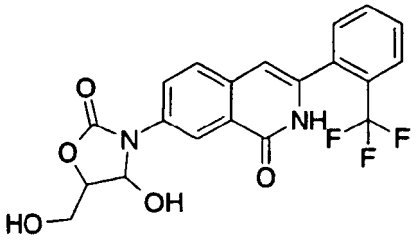
[0533] Triethylamine (18 μl, 0.10 mmol) and triphosgene (9.8 mg, 0.033 mmol) were added to a THF solution (0.5 ml) that contained the 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (30.4 mg, 0.10 mmol) obtained in step C of Example 1-1. The obtained mixture was stirred at a room temperature for 1.5 hours. At the same time, a butyl lithium hexane solution (1.57 M, 70 μl) was added at -78°C to a THF solution (0.5 ml) that contained 3-(tert-butyldimethylsilyloxy)-1,1-diethoxypropan-2-ol (27.8 mg, 0.10 mmol), which had been synthesized in accordance with Liebigs Ann. Chem. 1989, pp. 295-298. The obtained mixture was stirred at 0°C for 10 minutes. Thereafter, the obtained reaction solution was added to the reaction solution, and the obtained mixture was stirred at 0°C for 2.5 hours. Thereafter, a saturated ammonium chloride aqueous solution was added to the reaction solution, and the mixture was then extracted with ethyl acetate. Unnecessary products were removed by filtration, and the filtrate was then concentrated. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 1 : 2 to 1 : 1), so as to obtain [1- oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]carbamic acid 1-(tert-butyldimethylsilyloxymethyl)-2,3-diethoxyethyl (12.6 mg, 21%) in the form of a colorless amorphous substance.
[0534] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 0.06 (6H, s), 0.88 (9H, s), 1.17-1.26 (6H, m), 3.50-3.80 (4H, m), 3.87 (1H, dd, J=5.3, 11.2Hz), 3.93 (1H, dd, J=3.6, 11.2Hz), 4.71 (1H, d, J=5.6Hz), 4.93-5.01 (1H, m), 6.50 (1H, s), 7.42 (1H, s), 7.50-7.72 (4H, m), 7.78-7.84 (1H, m), 8.11-8.20 (2H, m), 9.20 (1H, brs)
ESI (LC-MS positive mode) m/z 563 (M+H-EtOH).

Step B

7-(4-Hydroxy-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0535]

[Formula 159]



[0536] 6 N Hydrochloric acid (0.3 ml) was added to an ethanol solution (0.1 ml) that contained the [1- oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]carbamic acid 1-(tert-butyldimethylsilyloxymethyl)-2,3-diethoxyethyl (12.6 mg, 0.0207 mmol) obtained in step A. The obtained mixture was then stirred at a room temperature for 2 hours. Thereafter, the reaction solution was neutralized with a sodium hydroxide aqueous solution, and it was then extracted with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 20 : 1 to 18 : 1), so as to obtain 7-(4-hydroxy-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (6.5 mg, 75%) in the form of a colorless amorphous substance.

[0537] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.63-3.69 (2H, m), 4.31-4.35 (1H, m), 5.25 (1H, t, J=5.7Hz), 5.66-5.70 (1H, m), 6.49 (1H, s), 7.05-7.10 (1H, m), 7.61-7.82 (4H, m), 7.85-7.90 (1H, m), 8.00 (1H, dd, J=2.3, 5.8Hz), 8.43 (1H, d, J=2.4Hz), 11.61 (1H, brs)
ESI (LC-MS positive mode) m/z 421 (M+H).

[Example 2-50]

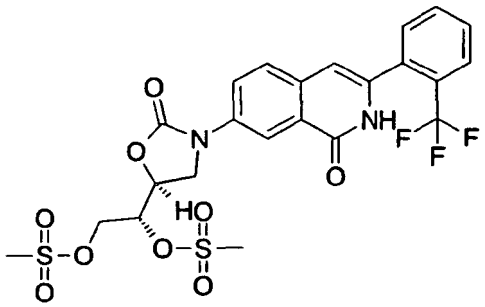
7-[(S)-5-((S)-1,2-Dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

(R)-2-Methanesulfonyloxy-2-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl methanesulfonate

[0538]

[Formula 160]



[0539] The 7-[(S)-5-((R)-1,2-dihydroxyethyl)-2-oxooxazolin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (71 mg, 0.164 mmol) obtained in step B of Example 1-39 was dissolved in pyridine (1 ml). Thereafter, methanesulfonyl chloride (32 μl, 0.409 mmol) was added to the obtained solution. The obtained mixture was stirred at a room temperature for 2 hours. Thereafter, methanesulfonyl chloride (20 μl, 0.258 mmol) was added to the reaction solution, and the obtained mixture was stirred for 2 hours. Thereafter, the reaction solution was diluted with methylene chloride, and the diluted solution was washed with 1 N hydrochloric acid and a saturated saline solution, and was then dried over anhydrous sodium sulfate. Thereafter, the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 30 : 1), so as to obtain (R)-2-methanesulfonyloxy-2-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl methansulfonate (53 mg, 55%).

[0540] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 3.14 (s, 3H), 3.21 (s, 3H), 4.24-4.38 (m, 2H), 4.55 (dd, J=12.00Hz, 4.32Hz,

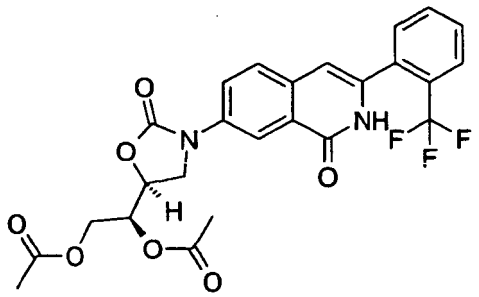
1H), 4.69 (dd, J=12.05Hz, 3.41Hz, 1H), 4.93-5.00 (m, 1H), 5.10-5.15 (m, 1H), 6.51 (s, 1H), 7.55-7.69 (m, 4H), 7.82 (d, J=7.39Hz, 1H), 8.06 (d, J=2.24Hz, 1H), 8.38 (dd, J=8.73Hz, 2.47Hz, 1H), 8.64 (brs, 1H).

Step B

(S)-2-Acetoxy-2-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl acetate

[0541]

[Formula 161]



[0542] The (R)-2-methanesulfonyloxy-2-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl methansulfonate (53 mg, 0.0897 mmol) obtained in step A was dissolved in acetic anhydride (1 ml). Thereafter, potassium acetate (44 mg, 0.449 mmol) was added to the solution, and the obtained mixture was then stirred at 120°C for 6 hours. The reaction solution was cooled to a room temperature. A saturated sodium bicarbonate aqueous solution was added thereto, and the obtained mixture was then extracted with ethyl acetate. The extract was washed with water and a saturated saline solution, and was then dried over anhydrous sodium sulfate. Thereafter, the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 50 : 1), so as to obtain (S)-2-acetoxy-2-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl acetate (25 mg, 54%).

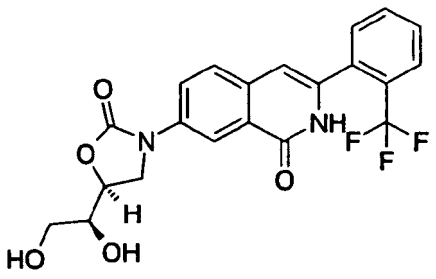
[0543] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 2.07 (s, 3H), 2.10 (s, 3H), 3.95-4.00 (m, 1H), 4.24-4.33 (m, 2H), 4.43-4.49 (m, 1H), 4.94-4.96 (m, 1H), 5.32-5.35 (m, 1H), 6.55 (s, 1H), 7.54-7.69 (m, 4H), 7.83 (d, J=7.39Hz, 1H), 7.94 (d, J=2.09Hz, 1H), 8.57 (dd, J=8.59Hz, 2.23Hz, 1H), 8.59 (brs, 1H).

Step C

7-[(S)-5-((S)-1,2-Dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0544]

[Formula 162]



[0545] Potassium carbonate (17 mg, 0.121 mmol) was added to a methanol solution (2 ml) that contained the (S)-2-acetoxy-2-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl acetate (25 mg, 0.0482 mmol) obtained in step B. The obtained mixture was stirred at a room temperature for 1.5 hours. Thereafter,

the reaction solution was neutralized with 1 N hydrochloric acid, and the resultant was then extracted with methylene chloride. The extract was washed with water and a saturated saline solution, and was then dried over anhydrous sodium sulfate. Thereafter, the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 20 : 1) and preparative HPLC, so as to obtain 7-[(S)-5-((S)-1,2-dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (6.7 mg, 32%).

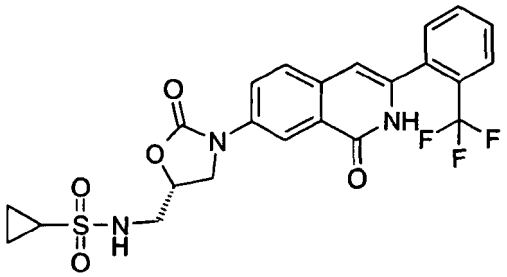
[0546] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 2.00-2.10 (m, 1H), 2.84-2.96 (m, 1H), 3.89 (s, 3H), 4.23 (d, J=7.96Hz, 2H), 4.79-4.86 (m, 1H), 6.52 (s, 1H), 7.55-7.68 (m, 4H), 7.83 (d, J=8.08Hz, 1H), 7.99 (d, J=1.93Hz, 1H), 8.49 (brs, 1H), 8.56 (dd, J=9.03Hz, 2.53Hz, 1H)
Mass (Micromass, Quttromicro) (ESI+): m/z 457.25 (M+Na).

[Example 2-51]

Cyclopropanesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl-methyl}amide

[0547]

[Formula 163]



[0548] The captioned compound was synthesized by a reaction similar to that of Example 2-31.

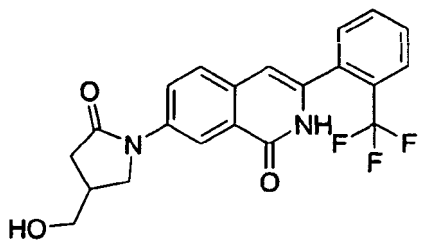
[0549] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 0.95 (4H, t, J=5.9Hz), 2.55-2.66 (1H, m), 3.33-3.49 (2H, m), 3.99 (1H, dd, J=6.1, 9.1Hz), 4.26 (1H, t, J=8.9Hz), 4.79-4.85 (1H, m), 6.49 (1H, s), 7.54-7.81 (5H, m), 7.87 (1H, d, J=7.2Hz), 8.09 (1H, dd, J=2.6, 8.6Hz), 8.21 (1H, d, J=2.3Hz), 11.60 (1H, brs)
ESI (LC-MS positive mode) m/z 508 (M+H).

[Example 2-52]

7-(4-Hydroxymethyl-2-oxopyrrolidin-1-yl)-3-(2-**trifluoromethylphenyl)-2H-isoquinolin-1-one**

[0550]

[Formula 164]



[0551] 4-Hydroxymethylpyrrolidin-2-one, which is a known compound described in a publication (Journal of Chemical Research, Synopses, vol. 9, pp. 430-431, (1996)) and the 7-iodo-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step D of Example 1-1 were used as raw materials. Using such raw materials, the captioned compound was synthesized by a reaction similar to step E of Example 1-1.

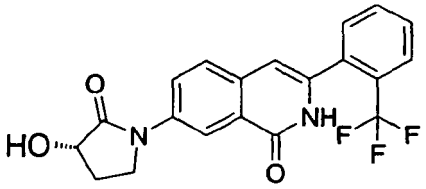
[0552] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.36 (1H, dd, J=4.9, 15.7Hz), 2.61-2.72 (2H, m), 3.50 (2H, brs), 3.74 (1H, dd, J=4.9, 9.7Hz), 4.01 (1H, dd, J=8.0, 9.7Hz), 4.93 (1H, brs), 6.48 (1H, s), 7.62-7.81 (4H, m), 7.87 (1H, d, J=6.9Hz), 8.18 (1H, dd, J=2.5, 8.7Hz), 8.34 (1H, d, J=2.5Hz), 11.60 (1H, brs)
ESI (LC-MS positive mode) m/z 403 (M+H).

[Example 2-53]

7-((S)-3-Hydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0553]

[Formula 165]



[0554] Using (S)-3-hydroxypyrrolidin-2-one, which is a known compound described in a publication (Heterocycles, 2003, vol. 60(8), pp. 1883-1841), as a raw material, the captioned compound was synthesized by a reaction similar to step E of Example 1-1.

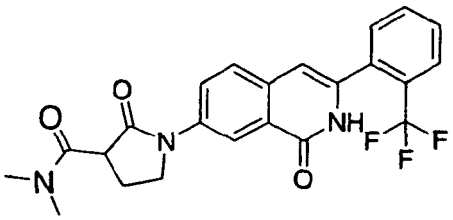
[0555] ^{1}H-NMR (300MHz, DMSO-d_6) δ (ppm): 1.80-2.00 (1H, m), 2.40-2.60 (1H, m), 3.70-3.95 (2H, m), 4.36 (1H, t, J=8.2Hz), 5.70-5.90 (1H, m), 6.48 (1H, s), 7.63 (1H, d, J=7.7Hz), 7.66-7.80 (3H, m), 7.87 (1H, d, J=8.1Hz), 8.17 (1H, dd, J=2.3, 8.5Hz), 8.39 (1H, d, J=2.3Hz), 11.58 (1H, brs)
ESI (LC-MS positive mode) m/z 389 (M+H).

[Example 2-54]

2-Oxo-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]pyrrolidine-3-carboxylic acid dimethylamide

[0556]

[Formula 166]



[0557] Dimethylamine (2.0 M-THF solution, 1.0 ml) was added to a THF solution (1 ml) that contained the 2-oxo-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]pyrrolidin-3-carboxylic acid ethyl (10 mg, 0.023 mml) obtained in step B of Example 1-45. The obtained mixture was stirred at 130°C for 3 days. Thereafter, the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 100 : 1 -> 30 : 1), so as to obtain 2-oxo-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]-pyrrolidin-3-carboxylic acid dimethylamide (7 mg, 70%) in the form of a colorless oil substance.

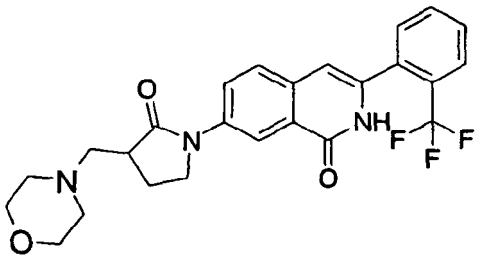
[0558] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.23-2.31 (1H, m), 2.42-2.52 (1H, m), 3.33 (6H, s), 3.94-4.07 (2H, m), 4.27 (1H, t, J=7.9Hz), 6.49 (1H, s), 7.63-7.78 (4H, m), 7.88 (1H, d, J=7.4Hz), 8.11 (1H, dd, J=2.3, 8.8Hz), 8.36 (1H, d, J=2.3Hz), 11.61 (1H, brs)
ESI (LC-MS positive mode) m/z 444 (M+H).

[Example 2-55]

7-(3-Morpholin-4-ylmethyl-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0559]

[Formula 167]



[0560] Methanesulfonyl chloride (0.023 ml, 0.299 mmol) and triethylamine (0.03 ml, 0.299 mmol) were added at -20°C to a dichloromethane solution (2 ml) that contained the 7-(3-hydroxymethyl-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (80 mg, 199 mmol) obtained in Example 1-46. The obtained mixture was stirred at -20°C for 2 hours. Thereafter, a saturated ammonium chloride aqueous solution was added to the reaction solution, and the obtained mixture was then extracted with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and the solvent was then distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 30 : 1 -> 20 : 1), so as to obtain methanesulfonic acid 2-oxo-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]-pyrrolidin-3-ylmethyl ester (38 mg, 40%) in the form of a colorless oil substance.

[0561] Morpholine (0.024 ml, 0.29 mmol) and triethylamine (0.040 ml, 0.29 mmol) were added to a THF solution (1 ml) that contained the obtained methanesulfonic acid 2-oxo-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]-pyrrolidin-3-ylmethyl ester (14 mg, 0.029 mmol). The obtained mixture was heated to reflux for 16 hours. Thereafter, a saturated ammonium chloride aqueous solution was added to the reaction solution, and the obtained mixture was then extracted with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and the solvent was then distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 100 : 1 -> 30 : 1), so as to obtain 7-(3-morpholin-4-ylmethyl-2-oxo-pyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (3 mg, 22%) in the form of a colorless oil substance.

[0562] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 2.16-2.20 (1H, m), 2.37-2.67 (6H, m), 2.85-2.95 (2H, m), 3.64-3.74 (4H, m), 3.93-3.99 (2H, m), 6.52 (1H, s), 7.26-7.68 (4H, m), 7.82 (1H, d, J=8.8Hz), 8.07 (1H, d, J=2.5Hz), 8.64 (1H, dd, J=2.5, 8.8Hz)

ESI (LC-MS positive mode) m/z 472 (M+H).

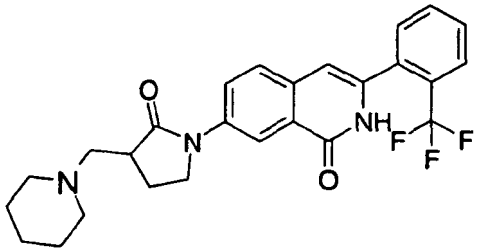
[0563] The following compounds (Examples 2-56 and 2-57) were synthesized by a method similar to that of Example 2-55.

[Example 2-56]

7-(2-Oxo-3-piperidin-1-ylmethylpyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0564]

[Formula 168]



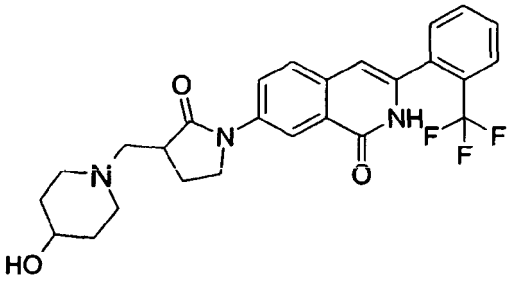
[0565] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 1.43-1.49 (2H, m), 1.56-1.62 (4H, m), 2.09-2.16 (1H, m), 2.43-2.62 (6H, m), 2.88-2.94 (2H, m), 3.91-3.97 (2H, m), 6.51 (1H, s), 7.26-7.67 (4H, m), 7.82 (1H, d, J=8.7Hz), 8.06 (1H, d, J=2.3Hz), 8.66 (1H, dd, J=2.3, 8.7Hz)
ESI (LC-MS positive mode) m/z 470 (M+H).

[Example 2-57]

7-[3-(4-Hydroxypiperidin-1-ylmethyl)-2-oxopyrrolidin-1-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0566]

[Formula 169]



[0567] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 1.52-1.73 (2H, m), 1.86-1.94 (2H, m), 2.07-2.44 (4H, m), 2.61 (1H, dd, J=10.0, 14.0Hz), 2.74-2.95 (4H, m), 3.65-3.74 (1H, m), 3.92-3.98 (2H, m), 6.51 (1H, s), 7.55-7.68 (4H, m), 7.82 (1H, d, J=8.9Hz), 8.06 (1H, d, J=2.4Hz), 8.64 (1H, dd, J=2.4, 8.9Hz)
ESI (LC-MS positive mode) m/z 486 (M+H).

[Example 2-58]

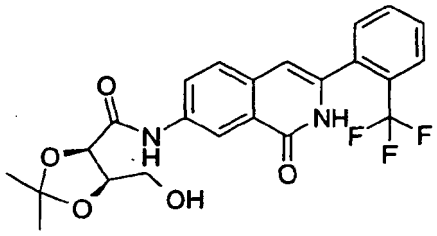
7-((3R,4R)-3,4-Dihydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

(4R,5R)-5-Hydroxymethyl-2,2-dimethyl-[1,3]dioxolane-4-carboxylic acid [1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]amide

[0568]

[Formula 170]



[0569] Ethyl magnesium bromide (1 M THF solution, 8.2 ml, 8.22 mmol) was added at -78°C to 10 ml of an anhydrous THF solution that contained the 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (1.0 g, 3.29 mmol) obtained in step C of Example 1-1. The obtained mixture was stirred for 30 minutes. Thereafter, 10 ml of an anhydrous THF solution that contained (-)-2,3-isopropyliden-D-erythronolactone (520 mg, 3.29 mmol) was added to the reaction solution, and the obtained mixture was then stirred at -78°C for 14 hours. Thereafter, the temperature of the reaction solution was returned to a room temperature, and ethyl magnesium bromide (8.2 ml, 8.2 mmol) was further added thereto. The obtained mixture was stirred at a room temperature for 2 hours. Thereafter, a saturated ammonium chloride aqueous solution was added to the reaction solution, so as to separate an organic layer. A water layer was then extracted with ethyl acetate. The organic layer was mixed with the extract. The mixture was then washed with water and a saturated saline solution, and was then dried over anhydrous sodium sulfate. The solvent was distilled away under reduced pressure, so as to obtain (4R,5R)-5-hydroxymethyl-2,2-dimethyl-[1,3]dioxolan-4-carboxylic acid [1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]amide (1.5 g, 99%).

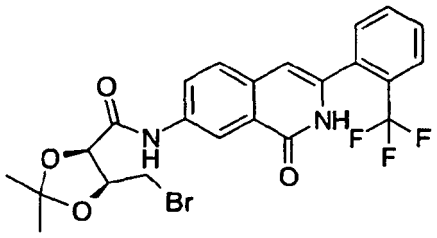
[0570] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 1.47 (s, 3H), 1.68 (s, 3H), 3.06-3.10 (m, 1H), 3.77-3.88 (m, 2H), 4.64-4.68 (m, 1H), 4.76 (d, J=7.60Hz, 1H), 6.51 (s, 1H), 7.54-7.70 (m, 4H), 7.82 (d, J=8.07Hz, 1H), 8.21 (s, 1H), 8.34 (dd, J=8.67Hz, 2.34Hz, 1H). 8.63 (s, 1H), 8.71 (s, 1H)
Mass (Micromass, Quttromicro) (ESI+): m/z 485.88 (M+Na).

Step B

(4R,5S)-5-Bromomethyl-2,2-dimethyl-[1,3]dioxolane-4-carboxylic acid [1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]amide

[0571]

[Formula 171]



[0572] The (4R,5R)-5-hydroxymethyl-2,2-dimethyl-[1,3]dioxolan-4-carboxylic acid [1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]amide (1.5 g, 3.24 mmol) obtained in step A was dissolved in an anhydrous methylene chloride solution (30 ml). Thereafter, triphenylphosphine (2.21 g, 8.43 mmol) and carbon tetrabromide (2.80 g, 8.43 mmol) were added to the solution, and the obtained mixture was stirred at a room temperature for 3 hours. Thereafter, the solvent was distilled away. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 50 : 1), so as to obtain (4R,5S)-5-bromomethyl-2,2-dimethyl-[1,3]dioxolan-4-carboxylic acid [1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]amide (3.0 g).

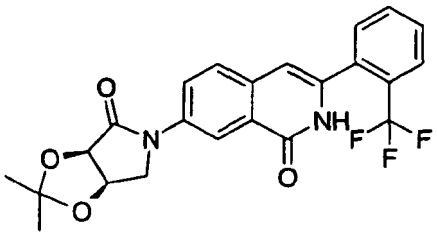
[0573] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 1.48 (s, 3H), 1.73 (s, 3H), 3.43-3.49 (m, 1H), 3.79 (dd, J=11.1Hz, 2.57Hz, 1H), 4.72-4.78 (m, 2H), 6.51 (s, 1H), 7.44-7.70 (m, 4H), 7.81 (d, J=7.70Hz, 1H), 7.20 (d, J=2.39Hz, 1H), 8.33 (dd, J=8.51Hz, 2.31Hz, 1H), 8.65 (s, 1H), 8.92 (brs, 1H) Mass (Micromass, Quttromicro) (ESI+): m/z 547.10 & 549.18 (M+Na).

Step C

7-((3aR,6aR)-2,2-Dimethyl-4-oxotetrahydro-[1,3]dioxolo[4,5-c]pyrrol-5-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0574]

[Formula 172]



[0575] The (4R,5S)-5-bromomethyl-2,2-dimethyl-[1,3]dioxolan-4-carboxylic acid [1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]amide (3.0 g, 5.71 mmol) obtained in step B was dissolved in anhydrous DMF (50 ml), and potassium carbonate (3.95 g, 28.6 mmol) was then added thereto. The obtained mixture was stirred at a room temperature for 2 hours. Thereafter, the solvent was distilled away. Water and ethyl acetate were added to the obtained residue. An organic layer was separated, and a water layer was extracted with ethyl acetate. The organic layer was mixed with the extract. The obtained mixture was washed with water and a saturated saline solution, and was then dried over anhydrous sodium sulfate. The solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 70 : 1 to 20 : 1), so as to obtain 640 mg of 7-((3aR,6aR)-2,2-dimethyl-4-oxotetrahydro-[1,3]dioxolo[4,5-c]pyrrol-5-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (25%).

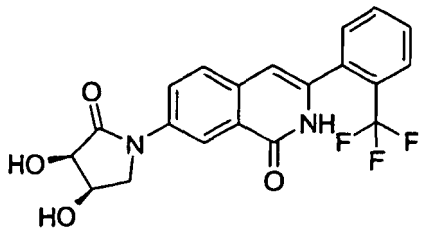
[0576] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 1.45 (s, 3H), 1.50 (s, 3H), 4.05-4.20 (m, 2H), 4.84-4.93 (m, 2H), 6.52 (s, 1H), 7.55-7.70 (m, 4H), 7.82 (d, J=7.19Hz, 1H), 8.06 (d, J=2.29Hz, 1H), 8.68 (dd, J=8.77Hz, 2.20Hz, 1H), 8.85 (brs, 1H) Mass (Micromass, Quttromicro) (ESI+): m/z 467.20 (M+Na).

Step D

7-((3R,4R)-3,4-Dihydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0577]

[Formula 173]



[0578] The 7-((3aR, 6aR)-2,2-dimethyl-4-oxotetrahydro-[1,3]dioxolo[4,5-c]pyrrol-5-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (630 mg, 1.42 mmol) obtained in step C was dissolved in THF (15 ml). Thereafter, 1 N hydrochloric acid (8.1 ml, 8.1 mmol) was added to the solution. The obtained mixture was stirred for 4 hours, while gently heating. Thereafter, the reaction solution was cooled to 0°C, and a 1 N sodium hydroxide aqueous solution was added thereto until liquid property became pH 8. An organic layer was separated, and a water layer was extracted with ethyl acetate. The organic layer was mixed with the extract. The mixture was washed with water and a saturated saline solution, and was then dried over anhydrous sodium sulfate. Thereafter, the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol), so as to obtain 36.7

mg of 7-((3R,4R)-3,4-dihydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (7%).

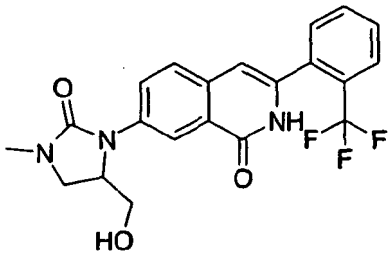
[0579] ^{1}H-NMR (Bruker, 300MHz, DMSO-d_6) δ: 3.65 (d, J=10.64Hz, 1H), 4.03 (dd, J=10.58Hz, 2.83Hz, 1H), 4.33-4.36 (m, 2H), 5.22 (d, J=2.70Hz, 1H), 5.67 (d, J=6.89Hz, 1H), 6.48 (s, 1H), 7.62-7.80 (m, 4H), 7.87 (d, J=7.69Hz, 1H), 8.15 (dd, J=8.79Hz, 2.27Hz, 1H), 8.39 (d, J=1.85Hz, 1H), 11.58 (s, 1H) Mass (Micromass, Quttromicro) (ESI+): m/z 405.24 (M+H).

[Example 2-59]

7-(5-Hydroxymethyl)-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0580]

[Formula 174]



[0581] 10% Pd-C (5 mg) was added to a methanol solution (3 ml) that contained 5-(hydroxymethyl)-3-methyl-2-oxo-1-imidazolidin carboxylic acid phenyl methyl ester (32 mg, 0.12 mmol), which is a known compound described in a publication (Beck, Gerhard; DE3337181). Thereafter, the obtained mixture was stirred in a hydrogen atmosphere for 2 hours. The reaction solution was filtered through celite, and the filtrate was then concentrated, without being purified. Using the 7-iodo-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (20 mg, 0.048 mmol) obtained in step D of Example 1-1, the captioned compound was synthesized by a reaction similar to step E of Example 1-1.

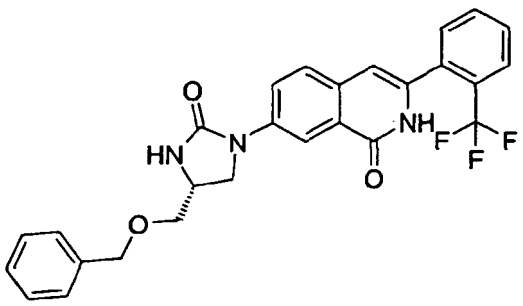
[0582] ^{1}H-NMR (500MHz, $CDCl_3$) δ (ppm): 2.59 (1H, brs), 2.93 (3H, s), 3.55-3.58 (1H, m), 3.63-3.67 (1H, m), 3.81-3.87 (2H, m), 4.5-4.6 (1H, m), 6.52 (1H, s), 7.29-7.61 (3H, m), 7.64-7.67 (1H, m), 7.81 (1H, d, J=7.5Hz), 7.99 (1H, d, J=2Hz), 8.56 (1H, dd, J=2, 8.5Hz), 8.71 (1H, brs)
ESI (LC-MS positive mode) m/z 418 (M+H).

[Example 2-60]

7-((R)-4-Benzyloxymethyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0583]

[Formula 175]



[0584] [(1S)-1-Formyl-2-(phenylmethoxy)ethyl]carbamic acid 1,1-dimethyl ethyl ester (410 mg, 1.48 mmol), which is a known compound described in a publication (Murray, William V; Tetrahedron Letters, vol. 43(41), p. 7389 (2002)), the

7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (450 mg, 1.48 mmol) obtained in step C of Example 1-1, and acetic acid (3 ml) were mixed. Thereafter, sodium cyanotrihydroborate (465 mg, 7.4 mmol) was added to the mixture under cooling on ice. The temperature of the obtained mixture was increased to a room temperature, and the mixture was then stirred for 3 hours. Thereafter, a saturated sodium bicarbonate aqueous solution was added to the reaction solution, and the mixture was then extracted with dichloromethane. The extract was dried over anhydrous sodium sulfate, and was then concentrated. The obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 1 : 1), so as to obtain a yellow foaming substance. TFA (0.5 ml) was added to a dichloromethane solution (3 ml) that contained this yellow foaming substance (50 mg, 0.088 mmol), and the obtained mixture was then stirred at a room temperature for 3 hours. Thereafter, the reaction solution was concentrated, and the compound of interest was synthesized by a reaction similar to step B of Example 1-35.

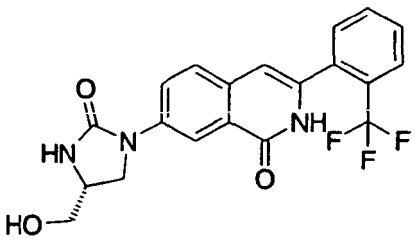
[0585] ^{1}H-NMR (500MHz, $CDCl_3$) δ (ppm): 3.52-3.56 (1H, m), 3.58-3.61 (1H, m), 3.73-3.76 (1H, m), 4.06-4.10 (1H, m), 4.12-4.16 (1H, m), 4.59 (2H, s), 5.07 (1H, s), 6.51 (1H, s), 7.26-7.55 (5H, m), 7.56-7.57 (2H, m), 7.60-7.63 (1H, m), 7.66-7.68 (1H, m), 7.81-7.82 (2H, m), 8.42 (1H, brs), 8.72 (1H, dd, J=2.5, 9Hz)
ESI (LC-MS positive mode) m/z 494 (M+H).

[Example 2-61]

7-((R)-4-Hydroxymethyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0586]

[Formula 176]



[0587] Using the 7-((R)-4-benzyloxymethyl-2-oxoimidazolidin-1-yl)-3-(2- trifluoromethylphenyl)-2H-isoquinolin-1-one prepared in Example 2-61 as a raw material, the captioned compound was synthesized by a reaction similar to that of Example 1-36.

[0588] ^{1}H-NMR (400MHz, DMSO-d_6) δ (ppm): 3.40-3.51 (2H, m), 3.71-3.78 (2H, m), 4.00-4.04 (1H, m), 4.98 (1H, t, J=5.37Hz), 6.43 (1H, s), 7.24 (1H, s), 7.62-7.64 (2H, m), 7.68-7.72 (1H, m), 7.75-7.79 (1H, m), 7.86 (1H, d, J=7.33Hz), 8.12 (1H, d, J=2.44Hz), 8.21 (1H, dd, J=2.44, 8.79Hz), 11.48 (1H, brs)
ESI (LC-MS positive mode) m/z 404 (M+H).

[Example 2-62]

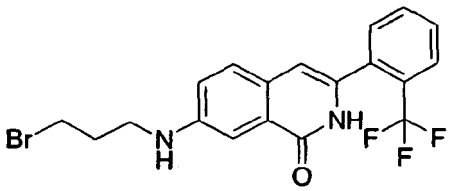
7-(3-Methyl-2-oxotetrahydropyrimidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

7-(3-Bromopropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0589]

[Formula 177]



[0590] Triphenylphosphine (940 mg, 3.59 mmol) and carbon tetrabromide (1.19 g, 3.59 mmol) were added to a methylene chloride solution (10 ml) that contained the 7-(3-hydroxypropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (500 mg, 1.38 mmol) obtained in step B of Example 1-49. The obtained mixture was stirred at a room temperature for 3 hours. The reaction solvent was distilled away, and the obtained residue was purified by silica gel column chromatography (ethyl acetate : hexane = 1 : 2 to 1 : 1), so as to obtain 7-(3-bromopropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (245 mg, 42%).

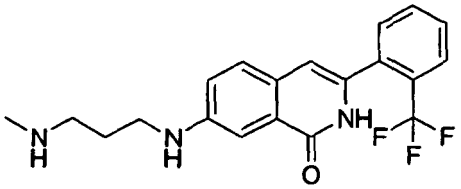
[0591] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 2.23 (quintet, J=6.50Hz, 2H), 3.46-3.56 (m, 4H), 6.43 (s, 1H), 7.03 (dd, J=8.31Hz, 2.56Hz, 1H), 7.39-7.71 (m, 5H), 7.80 (d, J=7.11Hz, 1H), 8.58 (brs, 1H)
Mass (Micromass, Quttromicro) (ESI+): m/z 425.15 & 427.26 (M+H).

Step B

7-(3-Methylaminopropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0592]

[Formula 178]



[0593] Methylamine (40% methanol solution) was added to the 7-(3-bromopropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (245 mg, 0.576 mmol) obtained in step A, and the obtained mixture was then stirred at a room temperature for 3 hours. Thereafter, the reaction solvent was distilled away, and the obtained residue was purified by amino silica gel column chromatography (methylene chloride : methanol = 20 : 1), so as to obtain 142 mg of 7-(3-methylaminopropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (66%).

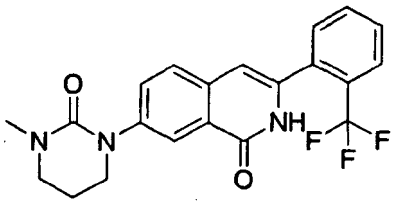
[0594] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 1.87 (quintet, J=6.48Hz, 2H), 2.45 (s, 3H), 2.77 (t, J=6.48Hz, 2H), 3.34 (t, J=6.48Hz, 2H), 6.42 (s, 1H), 7.01 (dd, J=8.43Hz, 2.25Hz, 1H), 7.37 (d, J=8.75Hz, 1H), 7.47-7.66 (m, 4H), 7.79 (d, J=7.29Hz, 1H)
Mass (Micromass, Quttromicro,ESI+): m/z 376.03 (M+H).

Step C

7-(3-Methyl-2-oxotetrahydropyrimidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0595]

[Formula 179]



[0596] Phosgene (294 μl, 0.559 mmol) was added at 0°C to an anhydrous methylene chloride solution (2 ml) that contained the 7-(3-methylaminopropylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (70 mg, 0.186 mmol) obtained in step B. The obtained mixture was stirred for 10 minutes. Thereafter, triethylamine (156 μl, 0.112 mmol) was added to the reaction solution, and the obtained mixture was then stirred for 30 minutes. Thereafter, water was added to the reaction solution. An organic layer was separated, and a water layer was then extracted with methylene chloride. The organic layer was mixed with the extract. The obtained mixture was washed with water and a saturated saline solution, and was then dried over anhydrous sodium sulfate. The solvent was distilled away under reduced pressure. The obtained residue was purified by amino silica gel column chromatography (methylene chloride : methanol = 40 : 1), so as to obtain 7-(3-methyl-2-oxotetrahydropyrimidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (10.2 mg, 14%).

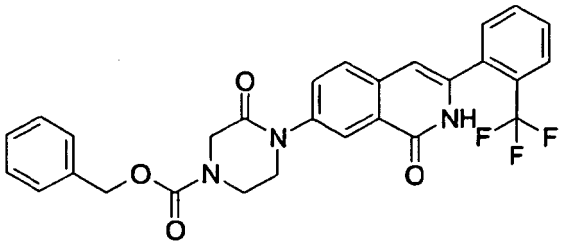
[0597] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 2.17 (quintet, J=6.03Hz, 2H), 3.03 (s, 3H), 3.42 (t, J=6.05Hz, 2H), 3.84 (t, J=5.75Hz, 2H), 6.49 (s, 1H), 7.48-7.66 (m, 4H), 7.81 (d, J=7.22Hz, 1H), 7.88 (dd, J=8.87Hz, 2.27Hz, 1H), 8.09 (d, J=2.27Hz, 1H), 8.64 (brs, 1H)
Mass (Micromass, Quttromicro) (ESI+): m/z 402.26 (M+H).

[Example 2-63]

Benzyl 3-oxo-4-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]piperazine-1-carboxylate

[0598]

[Formula 180]



[0599] Using the 7-iodo-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one as a raw material, the captioned compound was synthesized by a reaction similar to step D of Example 1-1.

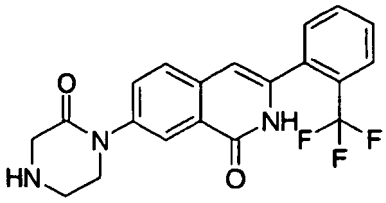
[0600] ^{1}H-NMR (270MHz, $CDCl_3$) δ (ppm): 3.65-3.72 (4H, m), 4.37 (2H, s), 5.21 (2H, s), 6.52 (1H, s), 7.34-7.41 (6H, m), 7.52-7.81 (6H, m), 8.18 (1H, s), 9.75 (1H, brs)
ESI (LC-MS positive mode) m/z 522 (M+H).

[Example 2-64]

7-(2-Oxopiperazin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0601]

[Formula 181]



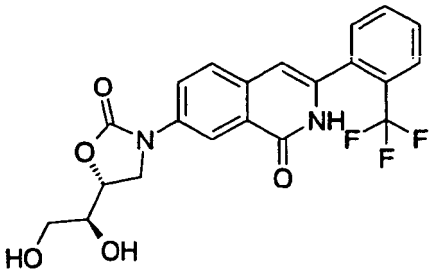
[0602] Using the 3-oxo-4-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]piperazin-1-carboxylic acid benzyl obtained in Example 2-63, the captioned compound was synthesized by a method similar to that of Example 2-39.
[0603] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 3.32 (4H, brs), 3.43 (2H, s), 6.51 (1H, s), 7.62-7.82 (5H, m), 7.88 (1H, d, J=7.9Hz), 8.12 (1H, s), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 388 (M+H).

[Example 2-65]

7-[(R)-5-((S)-1,2-Dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0604]

[Formula 182]



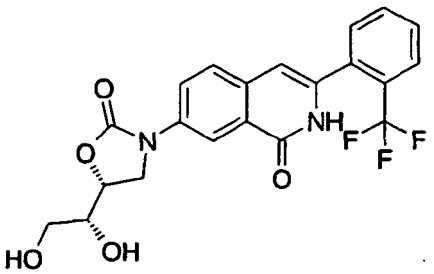
[0605] Using (L)-(+)-erythrose as a raw material, the captioned compound was synthesized by a method similar to that of Example 1-39.
[0606] ^{1}H-NMR (300MHz, $CDCl_3$) δ (ppm): 3.30-3.50 (1H, m), 3.60-3.80 (1H, m), 3.80-3.92 (1H, m), 3.93-4.02 (1H, m), 4.11 (1H, t, J=9.1Hz), 4.29 (1H, dd, J=6.8, 9.4Hz), 4.60-4.70 (1H, m), 6.45 (1H, s), 7.47-7.63 (5H, m), 7.74 (1H, d, J=7.4Hz), 7.91 (1H, d, J=2.0Hz), 8.44 (1H, dd, J=2.5, 8.8Hz), 8.66 (1H, brs)
ESI (LC-MS positive mode) m/z 435 (M+H).

[Example 2-66]

7-[(R)-5-((R)-1,2-Dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0607]

[Formula 183]



[0608] Using the 7-[(R)-5-((S)-1,2-dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-

one obtained in Example 2-65 as a raw material, the captioned compound was synthesized by a reaction similar to that of Example 2-50.

[0609] ^{1}H-NMR (Bruker, 300MHz, MeOH-d_4) δ: 3.71-3.77 (m, 3H), 4.15-4.20 (m, 1H), 4.31 (t, J=8.74Hz, 1H), 4.88-4.94 (m, 1H), 6.62 (s, 1H), 7.60-7.88 (m, 5H), 8.27 (d, J=2.22Hz, 1H), 8.33 (dd, J=8.77Hz, 2.34Hz, 1H).
Mass (Micromass, Quttromicro) (ESI-): m/z 433.43 (M-H).

[Example 2-67]

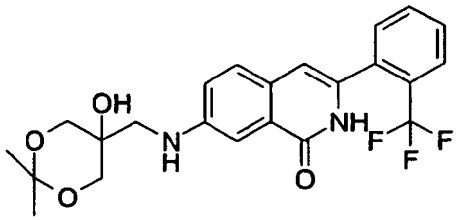
7-(5,5-Bishydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

7-[(5-Hydroxy-2,2-dimethyl-[1,3]dioxan-5-ylmethyl)amino]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0610]

[Formula 184]



[0611] 6,6-Dimethyl-1,5,7-trioxaspiro[2.5]octane (292 mg, 2.03 mmol) prepared according to a known method described in publications (EP227338, for example) and the 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (154 mg, 0.506 mmol) obtained in step C of Example 1-1 were dissolved in ethanol (4 ml). The obtained mixture was stirred at a room temperature for 4 hours and then stirred under heating to reflux for 18 hours. Thereafter, lithium bromide (0.2 mg, 0.00253 mmol) was added to the reaction solution at a room temperature, and the obtained mixture was then stirred for 3 hours. Thereafter, the reaction solution was concentrated, and water was then added thereto, followed by extraction with ethyl acetate. The extract was washed with water and a saturated saline solution, and was then dried over anhydrous sodium sulfate. The solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 40 : 1 to 20 : 1), so as to obtain 7-[(5-hydroxy-2,2-dimethyl-[1,3]dioxan-5-ylmethyl)amino]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (163 mg, 72%).

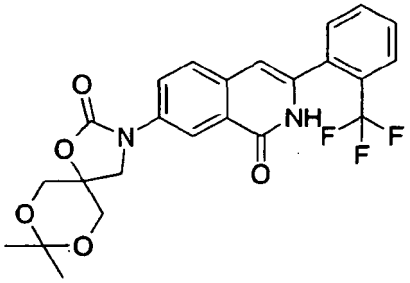
[0612] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 1.47 (s, 6H), 3.27 (s, 2H), 3.74 (d, J=11.87Hz, 2H), 3.92 (d, J=11.60Hz, 2H), 6.45 (s, 1H), 7.08 (dd, J=8.55Hz, 2.70Hz, 1H), 7.40 (d, J=8.59Hz, 1H), 7.50-7.67 (m, 4H), 7.80 (d, J=7.40Hz, 1H), 8.86 (brs, 1H)
Mass (Micromass, Quttromicro) (ESI+): m/z 471.23 (M+Na).

Step B

7-(8,8-Dimethyl-2-oxo-1,7,9-trioxa-3-azaspiro[4.5]deca-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0613]

[Formula 185]



[0614] The 7-[(5-hydroxy-2,2-dimethyl-[1,3]dioxan-5-ylmethyl)amino]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (163 mg, 0.366 mmol) obtained in step A was dissolved in anhydrous THF (3 ml). Thereafter, tetraethylamine (306 μl, 2.19 mmol) and phosgene (115 μl, 1.10 mmol) were added thereto under cooling on ice. The obtained mixture was stirred at a room temperature for 26 hours. Thereafter, water was added to the reaction solution, and the mixture was then extracted with ethyl acetate. The extract was washed with water and a saturated saline soltion, and was then dried over anhydrous sodium sulfate. The solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 40 : 1), so as to obtain 7-(8,8-dimethyl-2-oxo-1,7,9-trioxa-3-azaspiro[4.5]deca-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (22 mg, 13%).

[0615] ^{1}H-NMR (Bruker, 300MHz, $CDCl_3$) δ: 1.48 (s, 3H), 1.54 (s, 3H), 3.87 (d, J=11.82Hz, 2H), 4.09 (d, J=11.86Hz, 2H), 4.18 (s, 2H), 6.52 (s, 1H), 7.55-7.68 (m, 4H), 7.81-7.84 (m, 1H), 7.99 (d, J=2.72Hz, 1H), 8.55 (dd, J=8.84Hz, 2.53Hz, 1H), 8.83 (brs, 1H)

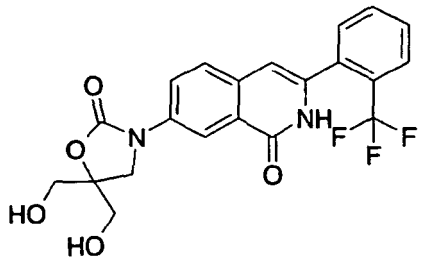
Mass (Micromass, Quttromicro) (ESI+): m/z 497.30 (M+Na).

Step C

7-(5,5-Bishydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0616]

[Formula 186]



[0617] The 7-(8,8-dimethyl-2-oxo-1,7,9-trioxa-3-azaspiro[4.5]deca-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (22 mg, 0.0464 mmol) obtained in step B was dissolved in anhydrous THF (2 ml). Thereafter, 1 N hydrochloric acid (264 μl, 0.264 mmol) was added to the solution. The obtained mixture was stirred at a room temperature for 18 hours. Thereafter, a 1 N sodium hydroxide aqueous solution was added to the reaction solution, so that the reaction solution was neutralized to pH 8. The solvent was distilled away, and the obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 30 : 1 to 10 : 1), so as to obtain 7-(5,5-bishydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (7.6 mg, 38%).

[0618] ^{1}H-NMR (300MHz, MeHO-d_4) δ (ppm): 3.71 (2H, d, J=12.1Hz), 3.80 (2H, d, J=12.1Hz), 4.11 (2H, s), 6.61 (1H, s), 7.58-7.87 (5H, m), 8.28-8.34 (2H, m)

ESI (LC-MS positive mode) m/z 435 (M+H).

[Example 2-68]

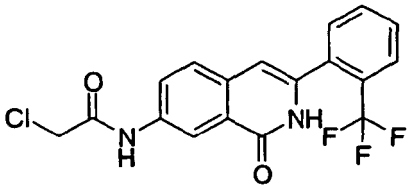
7-[3-(2-Hydroxyethyl)-5-oxoimidazolidin-1-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

2-Chloro-N-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]acetamide

[0619]

[Formula 187]



[0620] The 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (100 mg, 0.329 mmol) obtained in step C of Example 1-1 was dissolved in benzene (2 ml). Thereafter, chloroacetic acid chloride (29 μl, 0.362 mmol) and pyridine (80 μl, 0.986 mmol) were added to the solution, and the obtained mixture was stirred at a room temperature for 4 hours. Thereafter, the reaction solution was washed with 1 N hydrochloric acid, and was then extracted with ethyl acetate. The extract was dried over anhydrous sodium sulfate. The solvent was distilled away under reduced pressure. The obtained residue was suspended in and washed with cold ethyl acetate, and a solid was collected by filtration, so as to obtain 2-chloro-N-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]acetamide (70 mg, 56%).

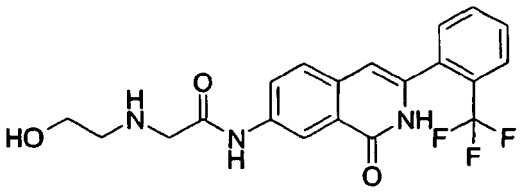
[0621] ^{1}H-NMR (Bruker, 300MHz, DMSO-d_6) δ: 4.31 (s, 2H), 6.45 (s, 1H), 7.62-7.92 (m, 7H), 8.53 (s, 1H), 10.61 (s, 1H)
Mass (Micromass, Quttromicro) (ESI+): m/z 381.53 (M+H).

Step B

2-(2-Hydroxyethylamino)-N-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]acetamide

[0622]

[Formula 188]



[0623] Ethanolamine (22 μl, 0.368 mmol) and triethylamine (128 μl) were added to an ethanol solution (2 ml) that contained the 2-chloro-N-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]acetamide (70 mg, 0.184 mmol) obtained in step A. The obtained mixture was stirred at 70°C for 18 hours. Thereafter, water was added to the reaction solution, and the mixture was then extracted with ethyl acetate. The extract was washed with water and a saturated saline solution, and was then dried over anhydrous sodium sulfate. Thereafter, the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 10 : 1), so as to obtain 2-(2-hydroxyethylamino)-N-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl] acetamide (19 mg, 26%).

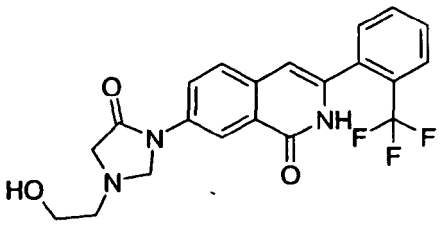
[0624] ^{1}H-NMR (Bruker, 300MHz, MeOH-d_4) δ: 2.89 (t, J=5.36Hz, 2H), 3.60 (s, 2H), 3.73 (t, J=5.14Hz, 2H), 6.57 (s, 1H), 7.58-7.76 (m, 4H), 7.84 (d, J=7.87Hz, 1H), 8.01 (dd, J=8.56Hz, 2.31Hz, 1H), 8.59 (d, J=2.23Hz, 1H)
Mass (Micromass, Quttromicro) (ESI+): m/z 406.56 (M+H).

Step C

7-[3-(2-Hydroxyethyl)-5-oxoimidazolidin-1-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0625]

[Formula 189]



[0626] A 37% formalin aqueous solution (3.8 μl, 0.0469 mmol) was added to an ethanol solution (2 ml) that contained the 2-(2-hydroxyethylamino)-N-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]acetamide (19 mg, 0.0469 mmol) obtained in step B. The obtained mixture was stirred under heating to reflux for 3 hours. Thereafter, water was added to the reaction solution, and the mixture was then extracted with ethyl acetate. The extract was washed with water and a saturated saline solution, and was then dried over anhydrous sodium sulfate. Thereafter, the solvent was distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 25 : 1), so as to obtain 7-[3-(2-hydroxyethyl)-5-oxoimidazolidin-1-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (5.2 mg, 27%).

[0627] ^{1}H-NMR (300MHz, MeOH-d_4) δ (ppm): 2.89 (2H, t, J=5.5Hz), 3.61 (2H, s), 3.75 (2H, t, J=5.5Hz), 4.83 (2H, s), 6.62 (1H, s), 7.62-7.86 (5H, m), 8.25 (1H, dd, J=2.4, 8.7Hz), 8.31 (1H, d, J=2.3Hz)
ESI (LC-MS positive mode) m/z 418 (M+H).

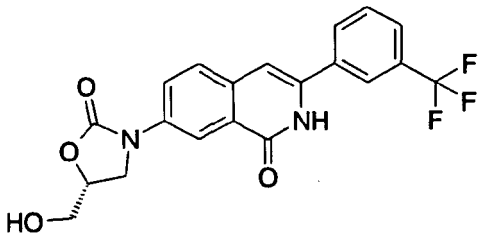
[0628] The following compounds (Examples 2-69 to 2-72) were synthesized by a reaction similar to that of Example 1-19.

[Example 2-69]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(3-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0629]

[Formula 190]



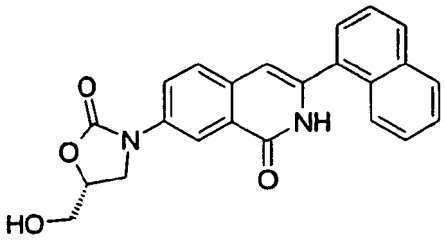
[0630] ^{1}H-NMR (Bruker, 300MHz, DMSO-d_6) δ: 3.56-3.75 (m, 2H), 3.96 (dd, J=8.74, 6.17Hz, 1H), 4.22 (t, J=8.99Hz, 1H), 4.71-4.79 (m, 1H), 5.23 (t, J=5.56Hz, 1H), 7.08 (s, 1H), 7.70-7.80 (m, 3H), 8.09 (dd, J=8.74, 2.30Hz, 2H), 8.15 (s, 1H), 8.27 (d, J=2.35Hz, 1H), 11.73 (brs, 1H)
Mass (Micromass, Quttromicro) (ESI-): m/z 403.28 (M-H).

[Example 2-70]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-naphthalen-1-yl-2H-isoquinolin-1-one

[0631]

[Formula 191]



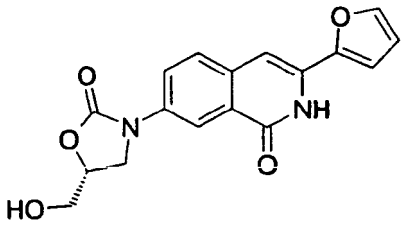
[0632] ^{1}H-NMR (Bruker, 300MHz, DMSO-d_6) δ: 3.58-3.76 (m, 2H), 3.98 (dd, J=8.38, 5.96Hz, 1H), 4.23 (t, J=8.96Hz, 1H), 4.72-4.80 (m, 1H), 5.24 (t, J=4.99Hz, 1H), 6.66 (s, 1H), 7.53-7.65 (m, 4H), 7.76 (d, J=9.15Hz, 2H), 7.89-7.93 (m, 1H), 8.01-8.12 (m, 3H), 8.29 (d, J=2.41Hz, 1H), 11.66 (brs, 1H)
Mass (Micromass, Quttromicro) (ESI-): m/z 385.21 (M-H).

[Example 2-71]

3-Furan-2-yl-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one

[0633]

[Formula 192]



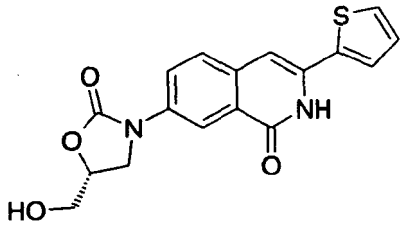
[0634] ^{1}H-NMR (Bruker, 300MHz, DMSO-d_6) δ: 3.58-3.72 (m, 2H), 3.95 (dd, J=8.84, 6.60Hz, 1H), 4.20 (t, J=8.72Hz, 1H), 4.70-4.78 (m, 1H), 5.23 (brs, 1H), 6.66 (dd, J=3.42, 1.43Hz, 1H), 6.95 (s, 1H), 7.34 (d, J=3.45Hz, 1H), 7.77 (d, J=8.34Hz, 1H), 7.84 (s, 1H), 8.03 (dd, J=8.82, 2.31Hz, 1H), 8.24 (s, 1H), 11.55 (brs, 1H)
Mass (Micromass, Quttromicro) (ESI+): m/z 349.48 (M+Na).

[Example 2-72]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-thiophen-2-yl-2H-isoquinolin-1-one

[0635]

[Formula 193]



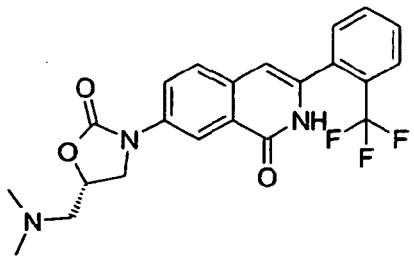
[0636] ^{1}H-NMR (Bruker, 300MHz, DMSO-d_6) δ: 3.57-3.73 (m, 2H), 3.95 (dd, J=9.13, 6.33Hz, 1H), 4.20 (t, J=9.16Hz, 1H), 4.71-4.76 (m, 1H), 5.21 (brs, 1H), 6.88 (s, 1H), 7.16 (dd, J=4.98, 3.79Hz, 1H), 7.65 (d, J=5.01Hz, 1H), 7.76 (d, J=8.78Hz, 1H), 7.82 (d, J=3.51Hz, 1H), 8.04 (dd, J=8.87, 2.65Hz, 1H), 8.23 (d, J=2.66Hz, 1H), 11.60 (brs, 1H)
Mass (Micromass, Quttromicro) (ESI+): m/z 365.22 (M+Na).

[Example 2-73]

7-((S)-5-Dimethylaminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0637]

[Formula 194]



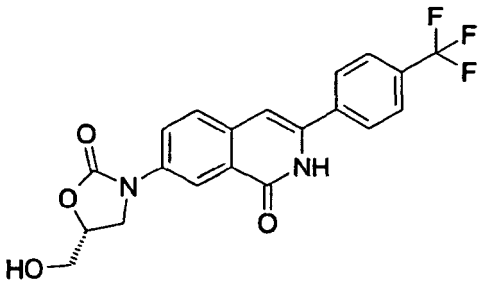
[0638] The captioned compound was synthesized by a method similar to that of Example 2-22.
[0639] ^{1}H-NMR (300MHz, $CDCl_3$) δ (ppm): 2.36 (6H, s), 2.69-2.76 (2H, m), 4.00 (1H, dd, J=7.1, 9.3Hz), 4.21 (1H, d, J=8.8Hz), 4.78-4.84 (1H, m), 6.53 (1H, s), 7.54-7.68 (4H, m), 7.82 (1H, d, J=7.8Hz), 7.95 (1H, d, J=2.5Hz), 8.61 (1H, dd, J=2.5, 8.8Hz), 8.78 (1H, brs)
ESI (LC-MS positive mode) m/z 432 (M+H).
[0640] The following compounds given in Examples 2-75 and 2-76 were synthesized by a reaction similar to that of Example 1-19.

[Example 2-75]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(4-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0641]

[Formula 195]



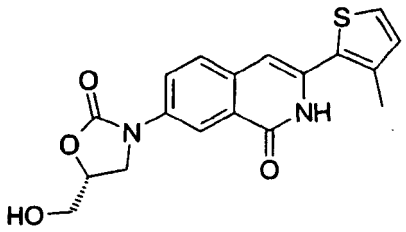
[0642] ^{1}H-NMR (Bruker, 300MHz, DMSO-d_6) δ: 3.57-3.75 (m, 2H), 3.96 (dd, J=8.41, 5.95Hz, 1H), 4.22 (t, J=8.95Hz, 1H), 4.71-4.79 (m, 1H), 5.23 (t, J=5.74Hz, 1H), 7.06 (s, 1H), 7.78-7.86 (m, 3H), 8.01 (d, J=8.32Hz, 2H), 8.10 (dd, J=8.78, 2.66Hz, 1H), 8.27 (d, J=2.30Hz, 1H), 11.67 (brs, 1H)
Mass (Micromass, Quttromicro) (ESI+): m/z 427.32 (M+Na).

[Example 2-76]

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(3-methylthiophen-2-yl)-2H-isoquinolin-1-one

[0643]

[Formula 196]



[0644] ^{1}H-NMR (Bruker, 300MHz, DMSO-d_6) δ: 2.31 (s, 3H)3.57-3.74 (m, 2H), 3.95 (dd, J=8.78, 6.48Hz, 1H), 4.20 (t, J=8.84Hz, 1H), 4.71-4.78 (m, 1H), 5.22 (t, J=4.36Hz, 1H), 6.62 (s, 1H), 7.01 (d, J=5.09Hz, 1H), 7.56 (d, J=5.44Hz, 1H), 7.74 (d, J=8.82Hz, 1H), 8.07 (dd, J=8.79, 2.79Hz, 1H), 8.23 (d, J=2.21Hz, 1H), 11.38 (brs, 1H)
Mass (Micromass, Quttromicro) (ESI+): m/z 379.36 (M+Na).

[Example 2-77]

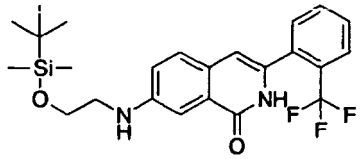
7-(3-Oxomorpholin-4-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

Step A

7-[2-(tert-Butyldimethylsilanyloxy)ethylamino]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0645]

[Formula 197]



[0646] (tert-Butyldimethylsilanyloxy)acetaldehyde (93.9 μL, 0.493 mmol) and acetic acid (169 μL, 2.96 mmol) were added to a methanol solution (30 ml) that contained the 7-amino-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (150 mg, 0.493 mmol) prepared in step C of Example 1-1. The obtained solution was cooled to 0°C, and sodium cyanoborate (1M THF solution, 1.48 mL, 1.48 mmol) was then added thereto. The obtained mixture was stirred at a room temperature for 18 hours. The reaction solution was poured into a mixed solution of ethyl acetate and a saturated sodium bicarbonate aqueous solution. An organic layer was dried over anhydrous sodium sulfate, and the solvent was then distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 40 : 1), so as to obtain 7-[2-(tert-butyldimethylsilanyloxy)ethylamino]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (210 mg, 92%).

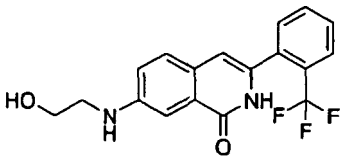
[0647] ^{1}H-NMR (300MHz, $CDCl_3$) δ (ppm): 0.09 (6H, s), 0.92 (9H, s), 3.36 (2H, t, J=5.15Hz), 3.88 (2H, t, J=5.16Hz), 6.44 (1H, s), 7.06 (1H, dd, J=8.54, 2.66Hz), 7.40 (1H, d, J=8.57Hz), 7.52-7.67 (4H, m), 7.80 (1H, d, J=6.87Hz), 8.58 (1H, brs)
Mass (Micromass, Quttromicro) (ESI+): m/z 463.39 (M+H).

Step B

7-(2-Hydroxyethylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0648]

[Formula 198]



[0649] TBAF (1 M THF solution, 88.2 μL, 0.882 mmol) was added to a THF solution (4 mL) that contained the 7-[2-(tert-butyldimethylsilanyloxy)ethylamino]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (204 mg, 0.441 mmol) obtained in step A, and the obtained mixture was then stirred at a room temperature for 1 hour. Thereafter, the reaction solution was poured into a mixed solution of ethyl acetate and a saturated ammonium chloride aqueous solution. An organic layer was dried over anhydrous sodium sulfate, and the solvent was then distilled away under reduced pressure. The obtained residue was purified by silica gel column chromatography (methylene chloride : methanol = 40 : 1 to 10 : 1), so as to obtain 7-(2-hydroxyethylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (173 mg, quant).

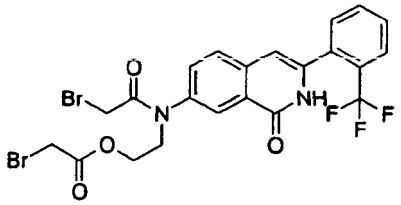
[0650] ^{1}H-NMR (300MHz, $CDCl_3$) δ (ppm): 3.44 (2H, t, J=5.00Hz), 3.91 (2H, t, J=5.02Hz), 6.44 (1H, s), 7.05 (1H, dd, J=8.55, 2.59Hz), 7.39 (1H, d, J=8.61Hz), 7.51-7.66 (4H, m), 7.79 (1H, d, J=7.30Hz), 8.64 (1H, brs)
Mass (Micromass, Quttromicro) (ESI+): m/z 371.30 (M+Na).

Step C

2-{(2-Bromoacetyl)-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]amino}ethyl bromoacetate

[0651]

[Formula 199]



[0652] Sodium hydride (60% in mineral oil, 39 mg, 0.976 mmol) was added to an anhydrous DMF solution (3 mL) that contained the 7-(2-hydroxyethylamino)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (170 mg, 0.488 mmol) obtained in step B. Thereafter, bromoacetyl bromide (213 μL, 2.44 mmol) was added thereto, and the obtained mixture was then stirred at a room temperature for 15 hours. Thereafter, a saturated ammonium chloride aqueous solution was added to the reaction solution, and the obtained reaction solution was extracted with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and the solvent was then distilled away under reduced pressure. The obtained residue was purified by preparative HPLC, so as to obtain 2-{(2-bromoacetyl)-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]amino}ethyl bromoacetate (24 mg, 8.3 %).

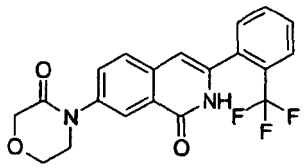
[0653] ^{1}H-NMR (300MHz, $CDCl_3$) δ (ppm): 3.69 (2H, s), 3.81 (2H, s), 4.07 (2H, t, J=5.21Hz), 4.40 (2H, t, J=5.26Hz), 6.57 (1H, s), 7.57-7.74 (5H, m), 7.85 (1H, d, J=7.67Hz), 8.30 (1H, s), 9.59 (1H, brs)
Mass (Micromass, Quttromicro) (ESI+): m/z 612.77 and 614.85 (M+Na)

Step D

7-(3-Oxomorpholin-4-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one

[0654]

[Formula 200]



[0655] Potassium carbonate (28 mg, 0.203 mmol) was added to a methanol solution (2 mL) that contained the 2-{(2-bromoacetyl)-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]amino}ethyl bromoacetate (24 mg, 0.0407 mmol) obtained in step C. The obtained mixture was stirred at a room temperature for 4 hours. Thereafter, the reaction solution was poured into a mixed solution of ethyl acetate and water, and the obtained mixture was then extracted with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and the solvent was then distilled away under reduced pressure. The obtained residue was purified by preparative thin layer chromatography (methylene chloride : methanol = 20 : 1), so as to obtain 7-(3-oxomorpholin-4-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (4.5 mg, 25%).

[0656] ^{1}H-NMR (300MHz, $CDCl_3$) δ (ppm): 3.88-3.92 (2H, m), 4.07-4.10 (2H, m), 4.39 (2H, s), 6.53 (1H, s), 7.54-7.71 (4H, m), 7.81-7.87 (2H, m), 8.25 (1H, d, J=2.25Hz), 8.83 (1H, brs) Mass (Micromass, Quttromicro) (ESI+): m/z 411.05 (M+Na)

[Example 3-1]

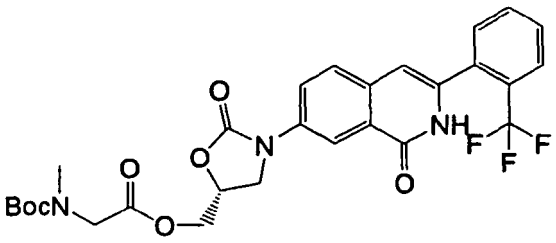
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl methylaminoacetate hydrochloride

Step A

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl N-tert-butoxycarbonyl-N-methyl-aminoacetate

[0657]

[Formula 201]



[0658] The 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (800 mg, 1.98 mmol) obtained in step B of Example 1-14 was dissolved in methylene chloride (10 ml). Thereafter, Boc-sar-OH (449 mg, 2.37 mmol), N,N-dimethylaminopyridine (73 mg, 0.59 mmol), and WSCI (493 mg, 2.57 mmol) were added at 0°C to the solution. The obtained mixture was stirred at a room temperature for 15 hours. Thereafter, the reaction mixture was concentrated under reduced pressure, and the obtained residue was then purified by silica gel chromatography (methylene chloride : methanol = 20 : 1), so as to obtain N-tert-butoxycarbonyl-N-methylaminoacetic acid (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester (1.14 g, 100%) in the form of a colorless foaming substance.

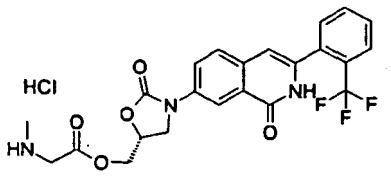
[0659] ^{1}H-NMR ($CDCl_3$) δ: 1.38-1.48 (9H, m), 2.91 (3H, s), 3.46-3.54 (1H, m), 3.93-4.06 (3H, m), 4.22-4.51 (2H, m), 4.88-5.02 (1H, m), 6.53 (1H, s), 7.50-7.74 (5H, m), 7.83 (1H, d, J=8.9Hz), 7.91-7.98 (1H, m)
ESI (LC-MS positive mode) m/z 576 (M+H).

Step B

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl methylaminoacetate hydrochloride

[0660]

[Formula 202]



[0661] A 4 N hydrochloric acid -ethyl acetate solution (5 ml, 20 mmol) was added at 0°C to a methylene chloride solution (10 ml) that contained the N-tert-butoxycarbonyl-N-methylaminoacetic acid (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester (1.15 g, 2.0 mmol) obtained in step A. The obtained mixture was stirred at a room temperature for 5 hours. Thereafter, ether was added to the reaction mixture, so that powders were completely precipitated and collected by filtration. The filtrate was washed with ether and hexane, and was then dried under reduced pressure, so as to obtain methylaminoacetic acid (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester hydrochloride (967 mg, 95%) in the form of white

powders.

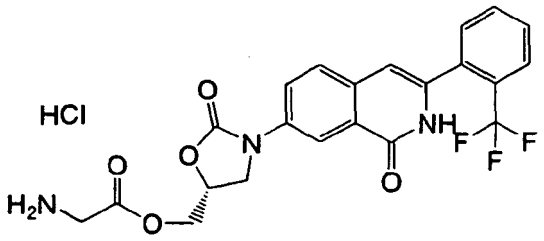
[0662] ^{1}H-NMR (DMSO-d_6) δ: 2.55-2.65 (3H, m), 3.95-4.12 (2H, m), 4.24-4.40 (1H, m), 4.48-4.58 (2H, m), 4.98-5.12 (1H, m), 6.50 (1H, s), 7.55-7.93 (5H, m), 8.10 (1H, dd, J=8.6, 2.4Hz), 8.21 (1H, d, J=2.4Hz), 9.19 (2H, brs), 11.60 (1H, brs)
ESI (LC-MS positive mode) m/z 476 (M+H).

[Example 3-2]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl aminoacetate hydrochloride

[0663]

[Formula 203]



[0664] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that Boc-Gly-OH was used instead of Boc-Sar-OH.

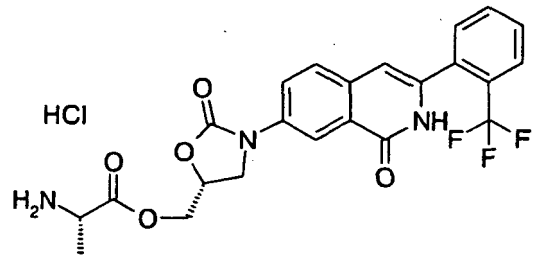
[0665] ^{1}H-NMR (DMSO-d_6) δ: 3.84-4.96 (1H, m), 3.06-4.08 (1H, m), 4.23-4.37 (1H, m), 4.48-4.56 (2H, m), 4.95-5.10 (1H, m), 6.50 (1H, s), 7.58-7.93 (1H, m), 8.10 (1H, dd, J=8.7, 2.5Hz), 8.21 (1H, d, J=2.5Hz), 8.35 (3H, brs), 11.63 (1H, s)
ESI (LC-MS positive mode) m/z 462 (M+H).

[Example 3-3]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-aminopropionate hydrochloride

[0666]

[Formula 204]



[0667] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that L-Boc-Ala-OH was used instead of Boc-Sar-OH.

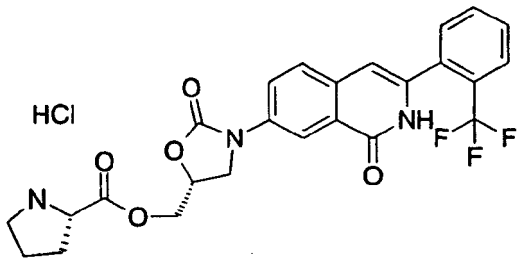
[0668] ^{1}H-NMR (DMSO-d_6) δ: 1.38 (3H, d, J=7.1Hz), 4.0-4.10 (1H, m), 4.10-4.24 (1H, m), 4.28-4.38 (1H, m), 4.38-4.69 (2H, m), 4.97-5.12 (1H, m), 6.50 (1H, s), 7.58-7.93 (1H, m), 8.10 (1H, dd, J=8.7, 2.4Hz), 8.22 (1H, d, J=2.5Hz), 8.46 (3H, brs), 11.63 (1H, s)
ESI (LC-MS positive mode) m/z 476 (M+H).

[Example 3-4]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-pyrrolidine-2-carboxylate hydrochloride

[0669]

[Formula 205]



[0670] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that L-Boc-Pro-OH was used instead of Boc-Sar-OH.

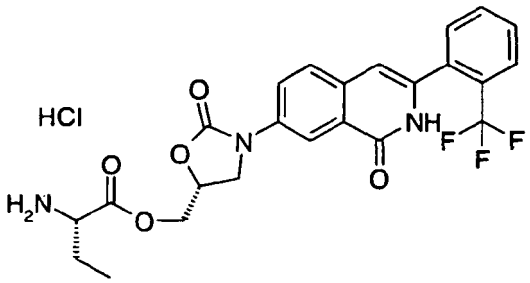
[0671] ^{1}H-NMR (DMSO-d_6) δ: 1.81-2.07 (3H, m), 2.12-2.30 (1H, m), 3.11-3.32 (1H, m), 4.03-4.17 (1H, m), 4.25-4.39 (1H, m), 4.39-4.50 (2H, m), 4.53-4.68 (1H, m), 4.99-5.13 (1H, m), 6.50 (1H, s), 7.55-7.93 (5H, m), 8.10 (1H, dd, J=8.7, 2.5Hz), 8.23 (1H, d, J=2.5Hz), 9.09 (1H, brs), 10.06 (1H, brs), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 502 (M+H).

[Example 3-5]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-aminobutanoate hydrochloride

[0672]

[Formula 206]



[0673] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that L-Boc-Abu-OH was used instead of Boc-Sar-OH.

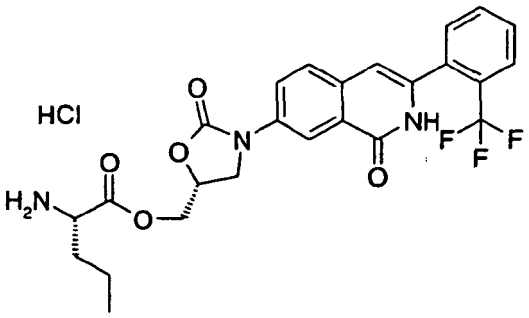
[0674] ^{1}H-NMR (DMSO-d_6) δ: 0.75-1.00 (3H, m), 1.73-1.90 (1H, m), 3.95-4.12 (1H, m), 4.35-4.49 (1H, m), 4.39-4.50 (1H, m), 4.58-4.70 (1H, m), 5.00-5.11 (1H, m), 6.50 (1H, s), 7.58-7.92 (1H, m), 8.09 (1H, dd, J=8.7, 2.5Hz), 8.22 (1H, d, J=2.5Hz), 8.52 (3H, brs), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 490 (M+H).

[Example 3-6]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-aminopentanoate hydrochloride

[0675]

[Formula 207]



[0676] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that L-Boc-Nva-OH was used instead of Boc-Sar-OH.

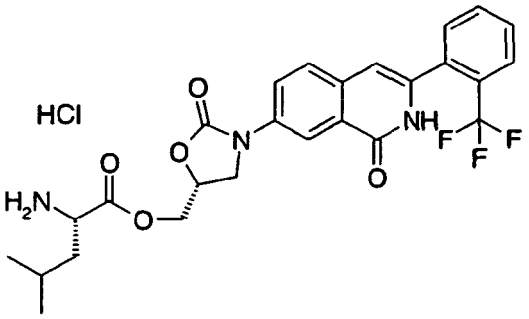
[0677] ^{1}H-NMR (DMSO-d_6) δ: 0.79 (1H, t, J=8.1Hz), 1.1-1.72 (4H, m), 3.90-4.12 (2H, m), 4.25-4.34 (1H, m), 4.34-4.48 (1H, m), 4.58-4.70 (1H, m), 4.98-5.12 (1H, m), 6.50 (1H, s), 7.54-7.93 (5H, m), 8.10 (1H, dd, J=8.7, 2.5Hz), 8.23 (1H, d, J=2.5Hz), 8.54 (3H, brs), 11.62 (1H, brs)
ESI (LC-MS positive mode) m/z 504 (M+H).

[Example 3-7]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-4-methylpentanoate hydrochloride

[0678]

[Formula 208]



[0679] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that L-Boc-Leu-OH was used instead of Boc-Sar-OH.

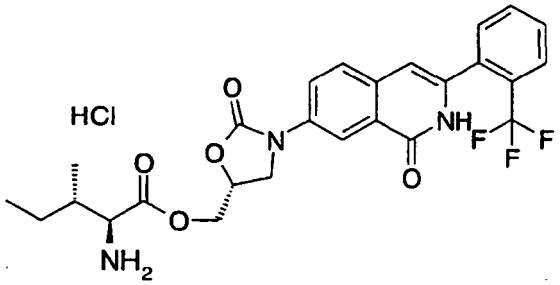
[0680] ^{1}H-NMR (DMSO-d_6) δ: 0.7-0.84 (6H, m), 1.52-1.63 (2H, m), 1.63-1.79 (1H, m), 3.92-4.14 (2H, m), 4.28-4.46 (2H, m), 4.60-4.69 (1H, m), 5.00-5.13 (1H, m), 6.50 (1H, s), 7.58-7.93 (5H, m), 8.11 (1H, dd, J=8.7, 2.5Hz), 8.23 (1H, d, J=2.5Hz), 8.48 (3H, brs), 11.62 (1H, brs)
ESI (LC-MS positive mode) m/z 518 (M+H).

[Example 3-8]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2S,3S)-2-amino-3-methylpentanoate hydrochloride

[0681]

[Formula 209]



[0682] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that L-Boc-ILe-OH was used instead of Boc-Sar-OH.

[0683] ^{1}H-NMR (DMSO-d_6) δ: 0.72-0.95 (6H, m), 1.17-1.50 (1H, m), 1.80-1.95 (1H, m), 3.94-4.09 (1H, m), 4.26-4.48 (2H, m), 4.58-4.70 (1H, m), 5.0-5.13 (1H, m), 6.50 (1H, s), 7.58-7.93 (5H, m), 8.11 (1H, dd, J=8.7, 2.5Hz), 8.22 (1H, d, J=2.5Hz), 8.50 (2H, brs), 11.63 (1H, brs)

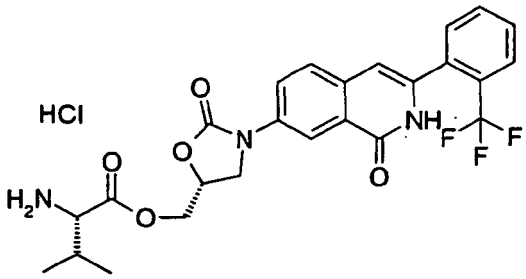
ESI (LC-MS positive mode) m/z 518 (M+H).

[Example 3-9]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-3-methylbutanoate hydrochloride

[0684]

[Formula 210]



[0685] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that L-Boc-Val-OH was used instead of Boc-Sar-OH.

[0686] ^{1}H-NMR (DMSO-d_6) δ: 0.96 (6H, t, J=7.4Hz), 1.20-1.30 (1H, m), 3.92-4.08 (2H, m), 4.26-4.52 (2H, m), 4.60-4.70 (1H, m), 4.99-5.12 (1H, m), 6.50 (1H, s), 7.55-7.96 (5H, m), 8.10 (1H, d, J=2.5, 8.7Hz), 8.21 (1H, d, J=2.5Hz), 11.63 (1H, brs)

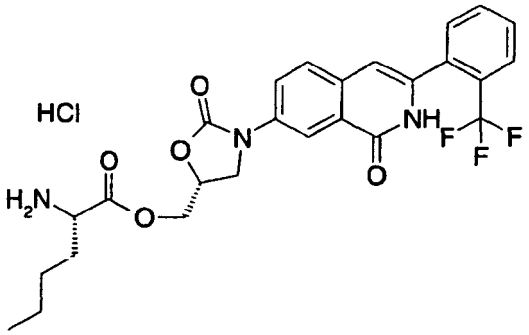
ESI (LC-MS positive mode) m/z 504 (M+H).

[Example 3-10]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-aminohexanoate hydrochloride

[0687]

[Formula 211]



[0688] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that L-Boc-Nle-OH was used instead of Boc-Sar-OH.

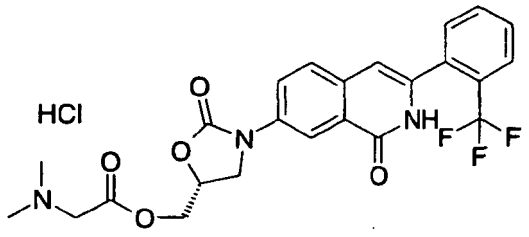
[0689] ^{1}H-NMR (DMSO-d_6) δ: 0.86 (1H, t, J=8.1Hz), 1.55-1.80 (6H, m), 3.90-4.12 (2H, m), 4.24-4.36 (1H, m), 4.33-4.49 (1H, m), 4.58-4.70 (1H, m), 4.98-5.12 (1H, m), 6.50 (1H, s), 7.54-7.93 (5H, m), 8.11 (1H, dd, J=8.7, 2.5Hz), 8.24 (1H, d, J=2.5Hz), 8.54 (3H, brs), 11.62 (1H, brs)
ESI (LC-MS positive mode) m/z 518 (M+H).

[Example 3-11]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl dimethylaminoacetate hydrochloride

[0690]

[Formula 212]



[0691] Using N,N-dimethyl-Gly-OH instead of Boc-Sar-OH, a condensation reaction was carried out by a method similar to step A of Example 3-1. The reaction mixture was concentrated under reduced pressure, and the obtained residue was purified by silica gel chromatography (methylene chloride : methanol = 20 : 1). Thereafter, 2 equivalent weight of a 4 N hydrochloric acid-ethyl acetate solution was added thereto at 0°C in methylene chloride, and the obtained mixture was then stirred for 30 minutes. Thereafter, ether was added to the reaction mixture, so that powders were completely precipitated and collected by filtration. The filtrate was washed with ether and hexane, and was then dried under reduced pressure, so as to obtain (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester hydrochloride in the form of white powders.

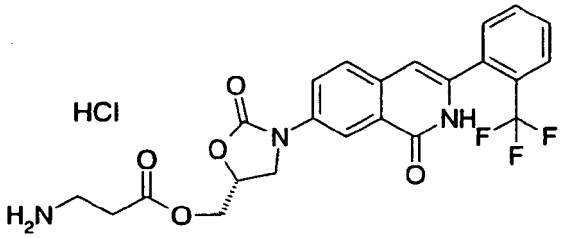
[0692] ^{1}H-NMR (DMSO-d_6) δ: 2.84 (6H, s), 4.0-4.10 (1H, m), 4.15-4.38 (2H, s), 4.44-4.60 (2H, s), 5.0-5.12 (1H, s), 6.50 (1H, s), 7.57-7.94 (5H, m), 8.10 (1H, dd, J=8.7, 2.4Hz), 8.22 (1H, d, J=2.4Hz), 10.52 (1H, brs), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 490 (M+H).

[Example 3-12]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-aminopropionate hydrochloride

[0693]

[Formula 213]



[0694] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that Boc-beta-Ala-OH was used instead of Boc-Sar-OH.

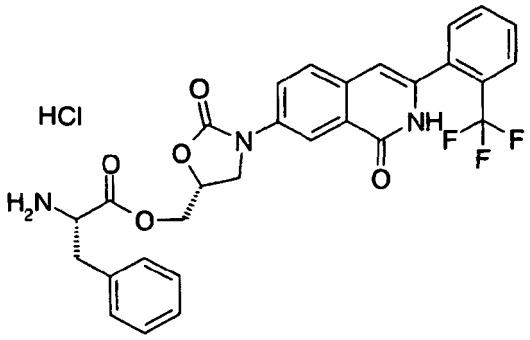
[0695] ^{1}H-NMR (DMSO-d_6) δ: 2.73 (2H, t, J=8.1Hz), 2.91-3.10 (2H, m), 3.95-4.08 (1H, m), 4.22-4.48 (3H, m), 4.85-5.10 (1H, m), 6.50 (1H, s), 7.58-7.93 (5H, m), 7.97 (3H, brs), 8.09 (1H, dd, J=8.7, 2.5Hz), 8.23 (1H, d, J=2.5Hz), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 476 (M+H).

[Example 3-13]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-3-phenylpropionate hydrochloride

[0696]

[Formula 214]



[0697] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that L-Boc-Phe-OH was used instead of Boc-Sar-OH.

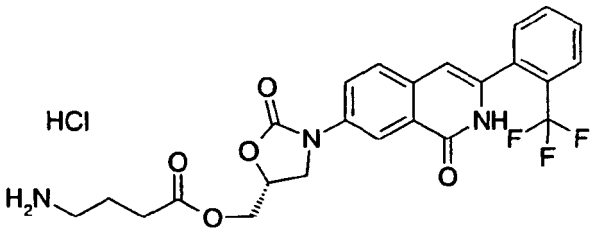
[0698] ^{1}H-NMR (DMSO-d_6) δ: 3.06-3.24 (2H, m), 3.83-3.98 (1H, m), 4.17-4.31 (1H, m), 4.31-4.55 (3H, m), 4.85-5.00 (1H, m), 6.50 (1H, s), 7.14-7.38 (5H, m), 7.59-7.93 (5H, m), 8.09 (1H, dd, J=8.7, 2.5Hz), 8.19 (1H, d, J=2.5Hz), 8.63 (3H, s), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 552 (M+H).

[Example 3-14]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 4-aminobutanoate hydrochloride

[0699]

[Formula 215]



[0700] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that L-Boc-gamma-Abu-OH was used instead of Boc-Sar-OH.

[0701] ^{1}H-NMR (DMSO-d_6) δ: 1.79-1.90 (2H, m), 2.42-2.55 (2H, m), 2.68-2.89 (2H, m), 3.91-4.12 (1H, m), 4.24-4.46 (2H, m), 4.92-5.09 (1H, m), 6.50 (1H, s), 7.54-8.0 (8H, m), 8.09 (1H, dd, J=8.9, 2.5Hz), 8.23 (1H, d, J=2.5Hz), 11.63 (1H, brs)

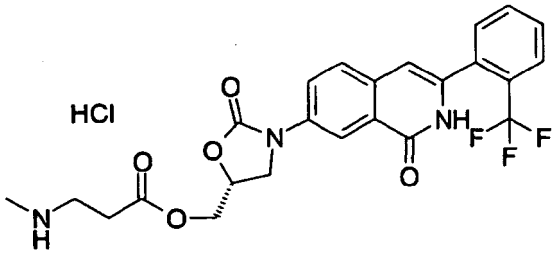
ESI (LC-MS positive mode) m/z 490 (M+H).

[Example 3-15]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-methylaminopropionate hydrochloride

[0702]

[Formula 216]



[0703] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that Boc-N-methyl-beta-Ala-OH was used instead of Boc-Sar-OH.

[0704] ^{1}H-NMR (DMSO-d_6) δ: 2.69 (2H, t, J=8.1Hz), 2.82 (2H, t, J=8.1Hz), 2.98-3.18 (3H, m), 3.95-4.13 (1H, m), 4.23-4.48 (3H, m), 4.95-5.12 (1H, s), 6.50 (1H, s), 7.56-7.95 (5H, m), 8.09 (1H, dd, J=8.7, 2.4Hz), 8.24 (1H, d, J=2.4Hz), 8.94 (2H, brs), 11.63 (1H, s)

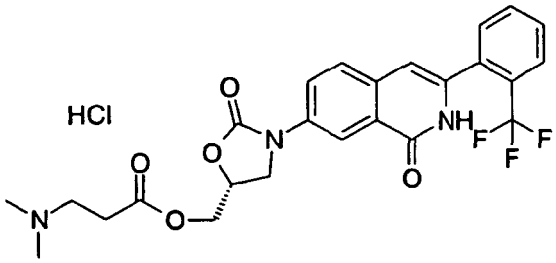
ESI (LC-MS positive mode) m/z 490 (M+H).

[Example 3-16]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-dimethylaminopropionate hydrochloride

[0705]

[Formula 217]



[0706] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that Boc-N,N-dimethyl-beta-Ala-OH was used instead of Boc-Sar-OH.

[0707] ^{1}H-NMR (DMSO-d_6) δ: 2.68-2.78 (3H, m), 2.81-2.98 (1H, m), 3.20-3.35 (2H, m), 3.95-4.08 (1H, m), 4.22-4.43 (3H, m), 4.92-5.09 (1H, m), 6.50 (1H, s), 7.57-7.95 (5H, m), 8.10 (1H, dd, J=8.7, 2.5Hz), 8.23 (1H, d, J=2.5Hz), 11.63 (1H, s)
ESI (LC-MS positive mode) m/z 504 (M+H).

[Example 3-17]

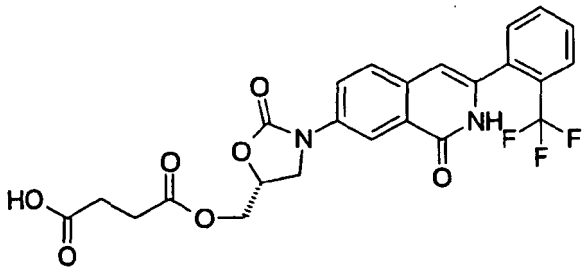
Sodium 3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} propionate

Step A

3-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}propionic acid

[0708]

[Formula 218]



[0709] The 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (50 mg, 0.12 mmol) obtained in step B of Example 1-14 was dissolved in pyridine (3 ml). Thereafter, succinic anhydride (14 mg, 0.14 mmol) was added to the solution, and the obtained mixture was then stirred at 50°C for 6 hours. Thereafter, succinic anhydride (24 mg, 0.25 mmol) was further added to the reaction solution, and the obtained mixture was then stirred at 50°C for 15 hours. Thereafter, 1 N hydrochloric acid was added to the reaction mixture, and precipitated powders were collected by filtration. The obtained filtrate was washed with water. The resultant was subjected to air-drying, and was then dried under reduced pressure, so as to obtain 3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}propionic acid (46 mg, 74%) in the form of white powders.

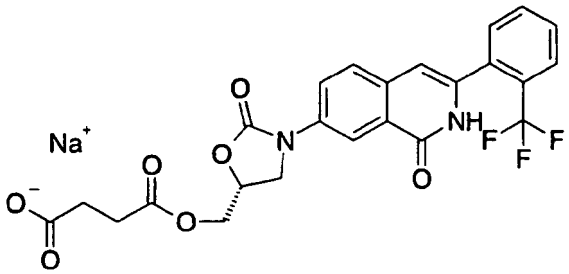
[0710] ^{1}H-NMR ($CDCl_3$) δ: 2.63 (4H, s), 4.03-4.24 (2H, m), 4.37-4.46 (2H, m), 4.84-5.00 (1H, m), 6.59 (1H, s), 7.42-7.74 (4H, m), 7.81 (1H, d, J=7.6Hz), 7.97 (1H, s), 8.61 (1H, dd, J=8.9, 2.3Hz), 10.08 (1H, brs)
ESI (LC-MS positive mode) m/z 505 (M+H).

Step B

Sodium 3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} propionate

[0711]

[Formula 219]



[0712] The 3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}propionic acid (44 mg, 0.09 mmol) obtained in step A was dissolved in ethyl acetate. The obtained solution, a 1 N-sodium hydroxide aqueous solution (79 μl, 0.08 mmol), and water were placed in a separatory funnel, and the obtained mixture was then fully shaken. Thereafter, the water layer thereof was freeze-dried, so as to obtain 3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}sodium propionate (24 mg, 58%) in the form of white powders.

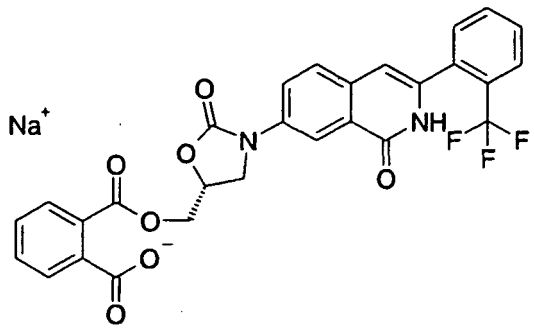
[0713] ^{1}H-NMR (DMSO-d_6) δ: 2.11 (2H, t, J=7.0Hz), 2.39 (2H, t, J=7.0Hz), 3.96-4.09 (1H, m), 4.18-4.35 (2H, m), 4.90-5.05 (1H, m), 6.49 (1H, s), 7.55-7.91 (5H, m), 8.08 (1H, dd, J=2.5, 8.7Hz), 8.24 (1H, d, J=2.5Hz)
ESI (LC-MS positive mode) m/z 505 (M+H).

[Example 3-18]

Sodium 2-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} benzoate

[0714]

[Formula 220]



[0715] The captioned compound was synthesized by a method similar to that of Example 3-17 with the exception that phthalic anhydride was used instead of succinic anhydride.

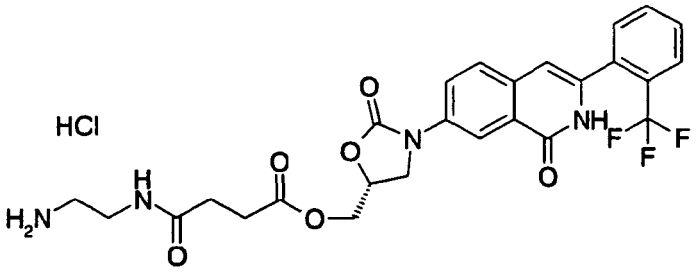
[0716] ^{1}H-NMR (DMSO-d_6) δ: 4.26 (1H, d, J=7.9Hz), 4.43 (1H, d, J=4.0Hz), 5.0-5.12 (1H, m), 6.49 (1H, s), 7.15-7.40 (4H, m), 7.60-7.93 (5H, m), 8.05 (1H, dd, J=8.7, 2.5Hz), 8.29 (1H, d, J=2.5Hz)
ESI (LC-MS positive mode) m/z 553 (M+H).

[Example 3-19]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 2-aminoethylsuccinamate hydrochloride

[0717]

[Formula 221]



[0718] The 3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}propionic acid obtained in step B of Example 3-17 and tert-butyl N-(2-aminoethyl)-carbamate were condensed with WSCI, and the reaction mixture was then concentrated under reduced pressure. The obtained residue was purified by silica gel chromatography (methylene chloride : methanol = 20 : 1), and the compound of interest was then synthesized by a method similar to step B of Example 3-1.

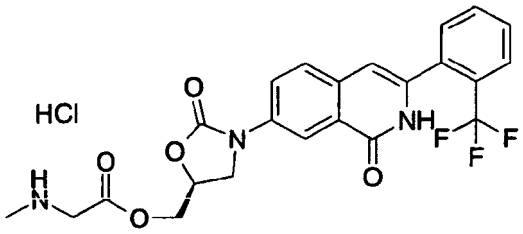
[0719] ^{1}H-NMR (DMSO-d_6) δ: 2.23-2.65 (6H, m), 2.83 (2H, t, J=5.4Hz), 3.9-4.04 (1H, m), 4.21-4.39 (2H, m), 4.90-5.06 (1H, m), 6.50 (1H, s), 7.58-7.92 (5H, m), 7.94 (1H, brs), 8.03-8.20 (2H, m), 8.23 (1H, d, J=2.5Hz), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 547 (M+H).

[Example 3-20]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl methylaminoacetate hydrochloride

[0720]

[Formula 222]



[0721] The 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step B of Example 1-13 was used instead of the 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step B of Example 1-14. Using this compound, the captioned compound was synthesized by a method similar to that of Example 3-1.

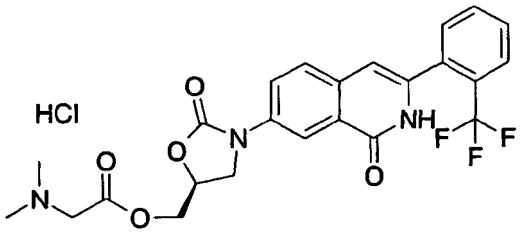
[0722] ^{1}H-NMR (DMSO-d_6) δ: 2.55-2.65 (3H, m), 3.95-4.12 (2H, m), 4.24-4.40 (1H, m), 4.48-4.58 (2H, m), 4.98-5.12 (1H. m), 6.50 (1H, s), 7.55-7.93 (5H, m), 8.10 (1H, dd, J=8.6, 2.4Hz), 8.21 (1H, d, J=2.4Hz), 9.19 (2H, brs), 11.60 (1H, brs)
ESI (LC-MS positive mode) m/z 476 (M+H).

[Example 3-21]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl dimethylaminoacetate hydrochloride

[0723]

[Formula 223]



[0724] The 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step B of Example 1-13 was used instead of the 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step B of Example 1-14. Using this compound, the captioned compound was synthesized by a method similar to that of Example 3-11.

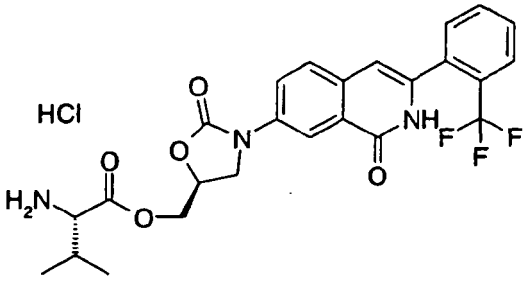
[0725] ^{1}H-NMR (DMSO-d_6) δ: 2.84 (6H, s), 4.0-4.10 (1H, m), 4.15-4.38 (2H, s), 4.44-4.60 (2H, s), 5.0-5.12 (1H, s), 6.50 (1H, s), 7.57-7.94 (5H, m), 8.10 (1H, dd, J=8.7, 2.4Hz), 8.22 (1H, d, J=2.4Hz), 10.52 (1H, brs), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 490 (M+H).

[Example 3-22]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydro-isoquinolin-7-yl]-oxazolidin-5-ylmethyl (S)-2-amino-3-methylbutyrate hydrochloride

[0726]

[Formula 224]



[0727] The 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step B of Example 1-13 was used instead of the 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in step B of Example 1-14. Using this compound, the captioned compound was synthesized by a method similar to that of Example 3-9.

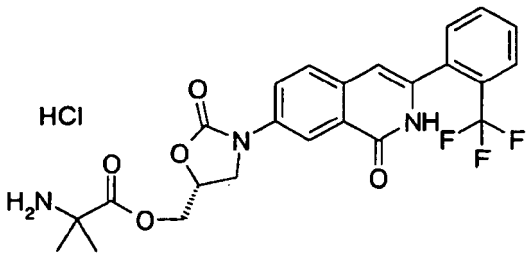
[0728] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm) : 0.93 (3H, d, J=6.9Hz), 0.94 (3H, d, J=6.9Hz), 2.14-2.21 (1H, m), 3.93 (1H, brs), 4.02 (1H, dd, J=6.3, 9.1Hz), 4.35 (1H, t, J=9.3Hz), 4.48-4.61 (2H, m), 5.03-5.12 (1H, m), 6.51 (1H, s), 7.63-7.90 (5H, m), 8.09 (1H, dd, J=2.3, 8.8Hz), 8.23 (1H, d, J=2.3Hz), 8.70 (1H, brs), 11.65 (1H, brs)
ESI (LC-MS positive mode) m/z 504 (M+H).

[Example 3-23]

(R)-2-Oxo-3-[1-oxo-3-trifluoromethylphenyl)-1,2-dihydro-isoquinolin-7-yl]-oxazolidin-5-ylmethyl 2-amino-2-methyl-propionate hydrochloride

[0729]

[Formula 225]



[0730] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that Boc-alfa-dimethyl-Gly-OH was used instead of Boc-Sar-OH.

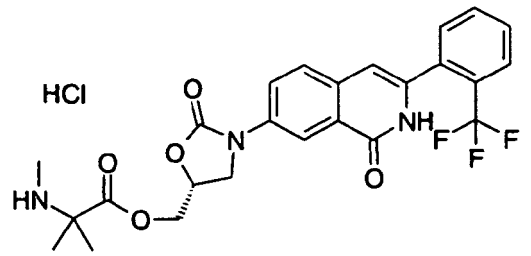
[0731] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm) : 1.42 (3H, s), 1.46 (3H, s), 4.07 (1H, dd, J=6.1, 8.6Hz), 4.35 (1H, dd, J=4.4, 12.2Hz), 4.59 (1H, dd, J=2.6, 12.2Hz), 5.02-5.11 (1H, m), 6.51 (1H, s), 7.63-7.89 (5H, m), 8.10 (1H, dd, J=2.5, 8.8Hz), 8.22 (1H, d, J=2.5Hz), 8.71 (2H, brs), 11.64 (1H, brs)
ESI (LC-MS positive mode) m/z 490 (M+H).

[Example 3-24]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydro-isoquinolin-7-yl]-oxazolidin-5-ylmethyl 2-methyl-2-methyl-amino-propionate hydrochloride

[0732]

[Formula 226]



[0733] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that Boc-alfa-dimethyl-Sar-OH was used instead of Boc-Sar-OH.

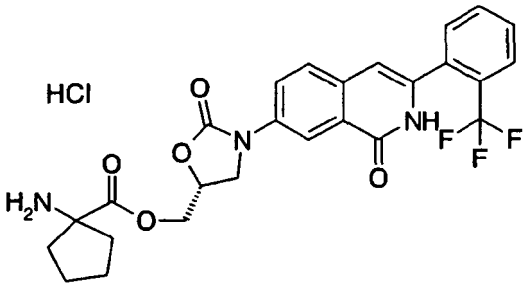
[0734] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm) : 1.46 (3H, s), 1.50 (3H, s), 2.50 (3H, brs), 4.12 (1H, t, J=6.1Hz), 4.35 (1H, t, J=9.0Hz), 4.47 (1H, dd, J=4.4, 12.3Hz), 4.61 (1H, d, J=12.3Hz), 6.51 (1H, s), 7.64-7.90 (5H, m), 8.10 (1H, dd, J=2.3, 8.7Hz), 8.25 (1H, d, J=2.3Hz), 9.88 (1H, brs), 11.66 (1H, brs)
ESI (LC-MS positive mode) m/z 504 (M+H).

[Example 3-25]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydro-isoquinolin-7-yl]-oxazolidin-5-ylmethyl 1-amino-cyclopentanecarboxylate hydrochloride

[0735]

[Formula 227]



[0736] The captioned compound was synthesized by a method similar to that of Example 3-1 with the exception that Boc-alfa-cyclopentyl-Sar-OH was used instead of Boc-Sar-OH.

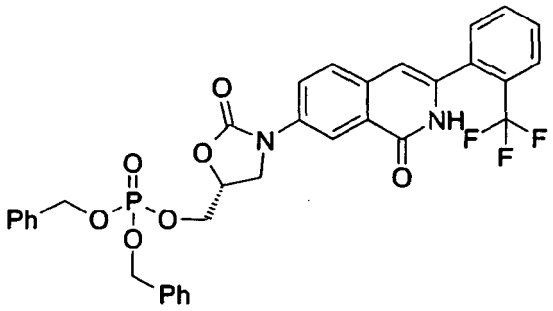
[0737] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 1.50-2.17 (8H, m), 4.09 (1H, t, J=5.6Hz), 4.36 (1H, t, J=9.3Hz), 4.45 (1H, dd, J=3.9, 12.2Hz), 4.58 (1H, d, J=12.2Hz), 5.10 (1H, brs), 6.51 (1H, s), 7.64-7.90 (5H, m), 8.10 (1H, dd, J=2.5, 8.7Hz), 8.24 (1H, d, J=2.5Hz), 8.81 (2H, brs), 11.66 (1H, brs)
ESI (LC-MS positive mode) m/z 516 (M+H)

[Example 3-26]

Dibenzyl phosphoate (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]-oxazolidin-5-ylmethyl ester

[0738]

[Formula 228]



[0739] The 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one (150 mg, 0.37 mmol) obtained in step B of Example 1-14 was dissolved in acetonitrile (5 ml). Thereafter, N,N-diisopropylethylamine (0.516 ml, 2.96 mmol), carbon tetrachloride (0.706 ml, 7.4 mmol), N,N-dimethylaminopyridine (14 mg, 0.22 mmol), and dibenzyl phosphite (0.410 ml, 1.86 mmol) were added to the solution. The obtained mixture was stirred at 50°C for 15 hours. Thereafter, the reaction mixture was concentrated under reduced pressure. The obtained residue was purified by silica gel chromatography (hexane : ethyl acetate = 1 : 5), so as to obtain phosphate dibenzyl ester (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]-oxazolidin-5-ylmethyl ester (85 mg, 34%) in the form of a colorless foaming substance.

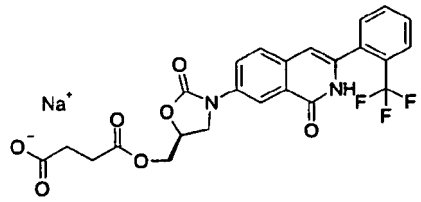
[0740] ^{1}H-NMR (DMSO-d_6) δ: 3.56-3.80 (1H, m), 3.85-4.02 (1H, m), 4.13-4.26 (1H, m), 4.73-4.86 (1H, m), 5.22-5.35 (4H, m), 6.52 (1H, s), 7.20-7.40 (10H, m), 7.55-7.95 (5H, m), 8.11 (1H, dd, J=8.7, 2.5Hz), 8.25 (1H, d, J=2.5Hz), 11.62 (1H, brs)
ESI (LC-MS positive mode) m/z 665 (M+H).

[Example 4-1]

Sodium 3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} propionate

[0741]

[Formula 229]



[0742] The title compound was synthesized by a method similar to that of Example 3-17 using 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

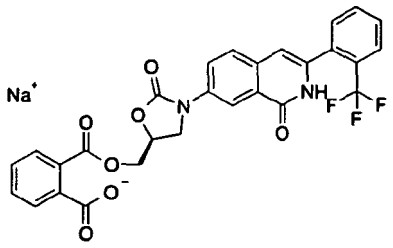
[0743] ^{1}H-NMR (DMSO-d_6) δ: 2.11 (2H, t, J=7.0Hz), 2.39 (2H, t, J=7.0Hz), 3.96-4.09 (1H, m), 4.18-4.35 (2H, m), 4.90-5.05 (1H, m), 6.49 (1H, s), 7.55-7.91 (5H, m), 8.08 (1H, dd, J=2.5, 8.7Hz), 8.24 (1H, d, J=2.5Hz)
ESI (LC-MS positive mode) m/z 505 (M+H)

[Example 4-2]

Sodium 2-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} benzoate

[0744]

[Formula 230]



[0745] The title compound was synthesized by a method similar to that of Example 3-17 using phthalic anhydride instead of succinic anhydride and 7-((-S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

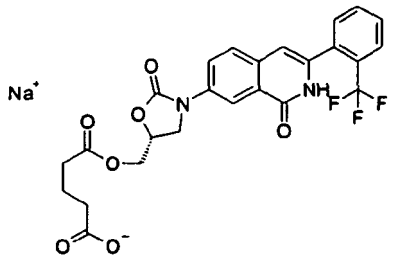
[0746] ^{1}H-NMR (DMSO-d_6) δ: 4.26 (1H, d, J=7.9Hz), 4.43 (1H, d, J=4.0Hz), 5.0-5.12 (1H, m), 6.49 (1H, s), 7.15-7.40 (4H, m), 7.60-7.93 (5H, m), 8.05 (1H, dd, J=8.7, 2.5Hz), 8.29 (1H, d, J=2.5Hz)
ESI (LC-MS positive mode) m/z 553 (M+H)

[Example 4-3]

Sodium 3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} butanoate

[0747]

[Formula 231]



[0748] The title compound was synthesized by a method similar to that of Example 3-17 using glutaric anhydride instead of succinic anhydride.

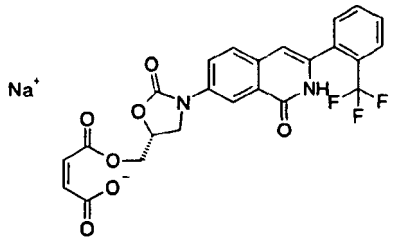
[0749] ^{1}H-NMR (DMSO-d_6) δ: 1.66 (2H, quint, J=8.0Hz), 1.83 (2H, t, J=8.0Hz), 2.33 (2H, t, J=8.0Hz), 3.94-4.00 (1H, m), 4.21-4.38 (3H, m), 4.89-5.07 (1H, m), 6.48 (1H, s), 7.60-7.90 (5H, m), 8.07 (1H, dd, J=2.5, 8.7Hz), 8.23 (1H, d, J=2.5Hz)
ESI (LC-MS positive mode) m/z 519(M+H).

[Example 4-4]

Sodium (Z)-3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}acrylate

[0750]

[Formula 232]



[0751] The title compound was synthesized by a method similar to that of Example 3-17 using maleic anhydride instead of succinic anhydride.

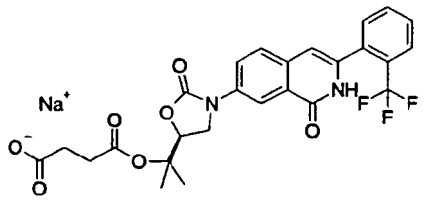
[0752] ^{1}H-NMR (DMSO-d_6) δ: 3.96-4.05 (1H, m), 4.25-4.49 (3H, m), 4.98-5.10 (1H, m), 6.15 (1H, d, J=12.0Hz), 6.49 (1H, s), 6.75 (1H, d, J=12.0Hz), 7.60-8.11 (5H, m), 8.08 (1H, dd, J=2.5, 8.7Hz), 8.23 (1H, d, J=2.5Hz)
ESI (LC-MS positive mode) m/z 503 (M+H)

[Example 4-5]

Sodium 2-(1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylethoxycarbonyl}propionate

[0753]

[Formula 233]



[0754] The title compound was synthesized by a method similar to that of Example 3-17 using 7-[(S)-5-(1-hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 2-11 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14. However, condensation was carried out in a pyridine solvent under reflux (115°C), not at a reaction temperature of 50°C.

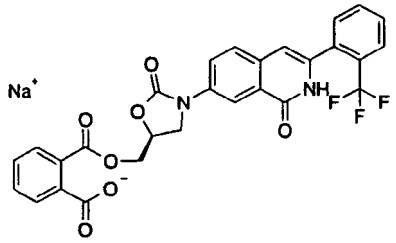
[0755] ^{1}H-NMR (DMSO-d_6) δ: 1.60 (6H, s), 2.05 (2H, t, J = 6.8 Hz), 2.28 (2H, t, J = 6.8 Hz), 4.21 (2H, d, J = 7.7 Hz), 4.83 (1H, t, J = 7.6 Hz), 6.50 (1H, s), 7.59-7.92(5H, m), 8.14 (1H, dd, J = 8.7, 2.5 Hz), 8.29 (1H, d, J=2.5Hz)
ESI (LC-MS positive mode) m/z 533(M+H).

[Example 4-6]

Sodium 2-(1-methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylethoxycarbonyl}benzoate

[0756]

[Formula 234]



[0757] The title compound was synthesized by a method similar to that of Example 3-17 using phthalic anhydride instead of succinic anhydride and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14. However, condensation was carried out in a pyridine solvent under reflux (115°C), not at a reaction temperature of 50°C.

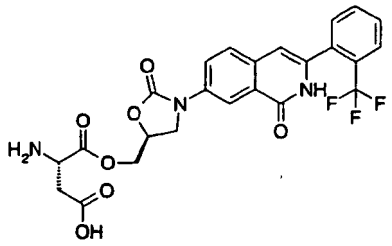
[0758] ^{1}H-NMR (DMSO-d_6) δ: 1.60 (3H, s), 1.66 (3H, s), 4.12-4.22 (1H, m), 4.52-4.61 (1H, m), 4.80-4.91 (1H, m), 6.49 (1H, s), 7.20-7.32 (4H, m), 7.48-7.90 (5H, m), 8.07 (1H, dd, J=8.7, 2.5Hz), 8.45 (1H, d, J=2.5Hz).
ESI (LC-MS positive mode) m/z 581 (M+H)

[Example 4-7]

1-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]-oxazolidin-5-ylmethyl} (S)-2-aminosuccinate

[0759]

[Formula 235]



[0760] Condensation was carried out by a method similar to that of Example 3-1 using (L)-Z-Asp(OBzl)-OH instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14, and deprotection was carried out by a method similar to that of Example 1-36 using a 10% Pd-C catalyst in a hydrogen atmosphere to synthesize the title compound.

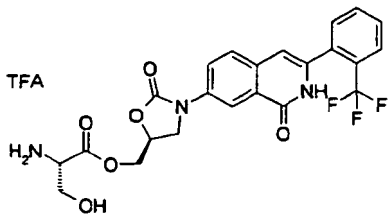
[0761] ^{1}H-NMR (DMSO-d_6) δ: 2.76-2.85 (2H, m), 3.92-4.05 (1H, m), 4.22-4.33 (2H, m), 4.40-4.55 (2H, m), 4.90-5.02 (1H, m), 6.48 (1H, s), 7.55-7.90 (5H, m), 8.09 (1H, dd, J=2.5, 8.7Hz), 8.17 (1H, d, J=2.5Hz)
ESI (LC-MS positive mode) m/z 520 (M+H)

[Example 4-8]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-3-hydroxypropionate trifluoroacetic acid

[0762]

[Formula 236]



[0763] The title compound was synthesized by a method similar to that of Example 3-1 using (L)-Boc-Ser(t-Bu)-OH instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

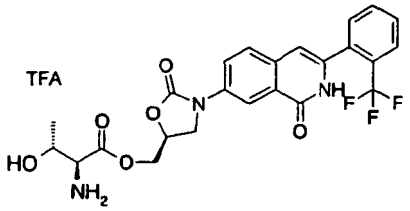
[0764] ^{1}H-NMR (DMSO-d_6) δ: 3.37 (1H, dd, J=3.4, 11.7Hz), 3.85 (1H, dd, J=4.4, 11.7Hz), 4.03 (1H, dd, J=6.5, 9.0Hz), 4.22 (1H, brs), 4.32 (1H, t, J=9.2Hz), 4.49 (1H, dd, J=5.4, 12.2Hz), 4.55 (1H, dd, J=2.9, 12.2Hz), 4.55 (1H, dd, J=2.9, 12.2Hz), 5.00-5.09 (1H, brs), 6.51 (1H, s), 7.63 (1H, d, J=7.3Hz), 7.70-7.81 (3H, m), 7.88 (1H, d, J=7.3Hz), 8.10 (1H, dd, J=2.4, 8.8Hz), 8.23 (1H, d, J=2.4Hz), 8.45 (2H, brs), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 492 (M+H)

[Example 4-9]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2S,3R)-2-amino-3-hydroxybutanoate trifluoroacetate

[0765]

[Formula 237]



[0766] The title compound was synthesized by a method similar to that of Example 3-1 using (L)-Boc-Thr(t-Bu)-OH instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

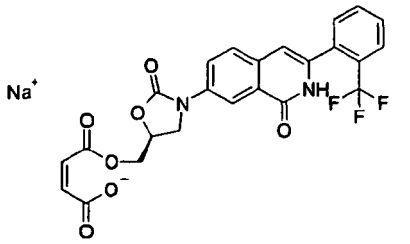
[0767] ^{1}H-NMR (DMSO-d_6) δ: 1.20 (3H, d, J=6.3Hz), 4.02 (2H, t, J=6.8Hz), 4.14-4.17 (1H, m), 4.32 (1H, t, J=8.8Hz), 4.49 (1H, dd, J=5.4, 12.2Hz), 4.54 (1H, dd, J=2.9, 12.2Hz), 5.04 (1H, brs), 6.51 (1H, s), 7.63 (1H, d, J=7.8Hz), 7.70-7.81 (3H, m), 7.87 (1H, d, J=7.3Hz), 8.09 (1H, dd, J=2.5, 8.8Hz), 8.22 (1H, d, J=2.5Hz), 8.34 (2H, brs), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 506 (M+H)

[Example 4-10]

Sodium (Z)-3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}acrylate

[0768]

[Formula 238]



[0769] The title compound was synthesized by a method similar to that of Example 3-17 using maleic anhydride instead of succinic anhydride and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

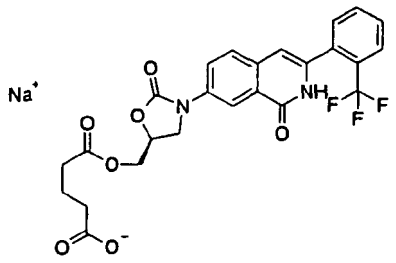
[0770] ^{1}H-NMR (DMSO-d_6) δ: 3.96-4.05 (1H, m), 4.25-4.49 (3H, m), 4.98-5.10 (1H, m), 6.15 (1H, d, J=12.0Hz), 6.49 (1H, s), 6.75 (1H, d, J=12.0Hz), 7.60-8.11 (5H, m), 8.08 (1H, dd, J=2.5, 8.7Hz), 8.23 (1H, d, J=2.5Hz)
ESI (LC-MS positive mode) m/z 503 (M+H)

[Example 4-11]

Sodium (Z)-3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}acrylate

[0771]

[Formula 239]



[0772] The title compound was synthesized by a method similar to that of Example 3-17 using glutaric anhydride instead of succinic anhydride and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

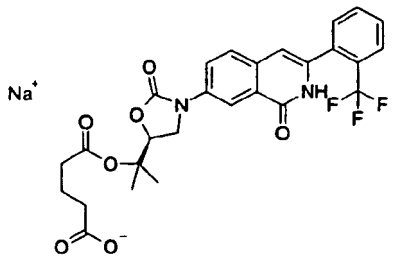
[0773] ^{1}H-NMR (DMSO-d_6) δ: 1.66 (2H, quint, J=8.0Hz), 1.83 (2H, t, J=8.0Hz), 2.33 (2H, t, J=8.0Hz), 3.94-4.00 (1H, m), 4.21-4.38 (3H, m), 4.89-5.07 (1H, m), 6.48 (1H, s), 7.60-7.90 (5H, m), 8.07 (1H, dd, J=2.5, 8.7Hz), 8.23 (1H, d, J=2.5Hz)
ESI (LC-MS positive mode) m/z 519 (M+H)

[Example 4-12]

Sodium 2-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} benzoate

[0774]

[Formula 240]



[0775] The title compound was synthesized by a method similar to that of Example 3-17 using glutaric anhydride instead of succinic anhydride and 7-[(S)-5-(1-hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 2-11 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14. However, condensation was carried out in a pyridine solvent under reflux (115°C), not at a reaction temperature of 50°C.

[0776] ^{1}H-NMR (DMSO-d_6) δ: 1.60 (6H, s), 1.55-1.70 (2H, m), 1.79-1.88 (2H, m), 2.19-2.31 (2H, m), 4.08-4.35 (2H, m), 4.74-4.84 (1H, m), 6.49 (1H, s), 7.59-7.91 (5H, m), 8.12 (1H, dd, J=8.8, 2.6Hz), 8.30 (1H, d, J=2.6Hz)
ESI (LC-MS positive mode) m/z 457 (M+H)

[Example 4-13]

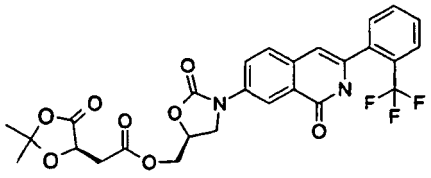
Sodium 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}-(S)-2-hydroxypropionate

Step A

3-{(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl} ((R)-2,2-dimethyl-5-oxo-[1,3]dioxolan-4-yl)acetate

[0777]

[Formula 241]



[0778] Condensation was carried out by a method similar to that of Step A of Example 3-1 using (R)-2,2-dimethyl-5-oxo-1,3-dioxolane-4-acetic acid instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14 to synthesize the title compound.

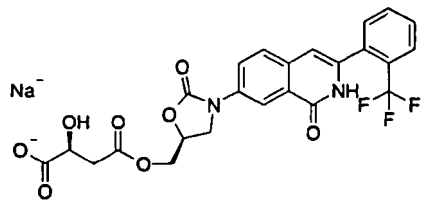
[0779] ^{1}H-NMR ($CDCl_3$) δ: 1.52 (3H, s), 1.58(3H, s), 2.78-3.05(2H, m), 4.02 (1H, dd, J = 9.2, 6.3 Hz), 4.28 (1H, t, J = 9.2 Hz), 4.34-4.58(2H, m), 4.66-4.75(1H, m), 4.91-5.02(1H, m), 6.52 (1H, s), 7.52-7.84 (5H, m), 7.93 (1H, d, J = 2.5 Hz), 8.51 (1H, dd, J = 8.9, 2.5 Hz), 9.28 (1H, s)
ESI (LC-MS positive mode) m/z 561 (M+H).

Step B

Sodium 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}-(S)-2-hydroxypropionate

[0780]

[Formula 242]



[0781] Water (1 mL) and acetic acid (0.102 mL, 1.8 mmol) were added to a solution of 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl} ((R)-2,2-dimethyl-5-oxo-[1,3]dioxolan-4-yl)acetate obtained in Step A (50 mg, 0.09 mmol) in THF (1 mL) at 0°C, and the mixture was stirred under reflux for five hours. The reaction mixture was concentrated under reduced pressure and purified by preparative TLC (Merck 1.13792: dichloromethane : methanol = 5 : 1) to obtain 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}-(S)-2-hydroxypropionic acid (28 mg, 60%) as a white solid. The product was converted into a sodium salt by a method similar to that of Step B of Example 3-17 to synthesize the title compound.

[0782] ^{1}H-NMR (DMSO-d_6) δ: 2.21 (1H, dd, J=14.7, 9.4Hz), 2.68 (1H, dd, J=14.7, 4.1Hz), 3.79 (1H, dd, J=9.4, 4.1Hz), 3.99-4.05 (1H, m), 4.23-4.34 (3H, m), 4.92-5.02 (1H, m), 6.49 (1H, s), 7.59-7.90, 8.05 (1H, dd, J=8.7, 2.5Hz), 8.24 (1H, d, J=2.5Hz)

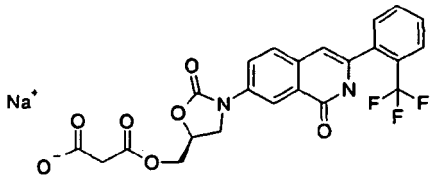
ESI (LC-MS positive mode) m/z 521 (M+H)

[Example 4-14]

Sodium 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} ethanoate

[0783]

[Formula 243]



[0784] Condensation and deprotection were carried out by a method similar to that of Example 3-1 using mono-t-butyl malonate instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14. The product was converted into a sodium salt by a method similar to that of Step B of Example 3-17 to synthesize the title compound.

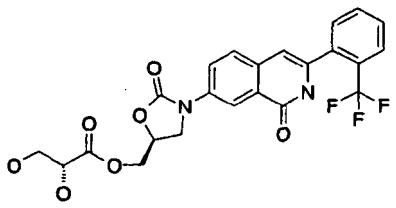
[0785] ^{1}H-NMR (DMSO-d_6) δ: 3.50 (2H, s), 3.91-4.43 (3H, m), 4.88-5.05 (1H, m), 6.49 (1H, s), 7.60-7.89 (5H, m), 8.03-8.09 (1H, m), 8.23 (1H, t, J=3.0Hz).
ESI (LC-MS positive mode) m/z 491 (M+H)

[Example 4-15]

Sodium 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} ethanoate

[0786]

[Formula 244]



[0787] Condensation was carried out by a method similar to that of Step A of Example 3-1 using (R)-2,2-dimethyl-1,3-dioxolane-4-carboxylic acid instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14, and deprotection was carried out by a method similar to that of Step B of Example 4-13 to synthesize the title compound.

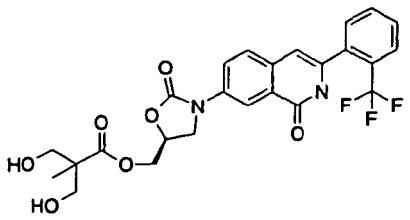
[0788] ^{1}H-NMR (DMSO-d_6) δ: 3.51-3.60 (2H, m), 3.92-4.13 (2H, m), 4.23-4.47 (3H, m), 4.95-5.04 (1H, m), 6.49 (1H, s), 7.59-7.93 (5H, m), 8.08 (1H, dd, J=8.7, 2.5Hz), 8.22 (1H, d, J=2.5Hz), 11.64 (1H, s).
ESI (LC-MS positive mode) m/z 493 (M+H)

[Example 4-16]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-hydroxy-2-hydroxymethyl-2-methylpropionate

[0789]

[Formula 245]

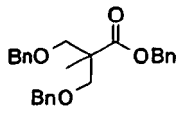


Step A

Benzyl 3-benzyloxy-2-benzyloxymethyl-2-methylpropionate

[0790]

[Formula 246]



[0791] 2,2-Bis(hydroxymethyl)propionic acid (500 mg, 3.73 mmol) was added to a solution of sodium hydride (55%: 488 mg, 11.2 mmol) in DMF (5 mL) at 0°C, and the mixture was stirred at room temperature for 15 hours. 1 N hydrochloric acid was added to the mixture under ice-cooling, followed by extraction with ethyl acetate. The extract was dried over anhydrous magnesium sulfate, and the solvent was evaporated under reduced pressure. The resulting residue was purified by silica gel column chromatography (hexane : ethyl acetate = 20 : 1, then 9 : 1) to obtain benzyl 3-benzyloxy-2-benzyloxymethyl-2-methylpropionate (518 mg, yield: 34%) as a colorless oil.

[0792] ^{1}H-NMR ($CDCl_3$) δ: 1.27 (3H, s), 3.65 (4H,s), 4.49 (4H, s), 5.15(2H, s), 7.19-7.40(15H, m)
ESI (LC-MS positive mode) m/z 405 (M+H).

Step B

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-hydroxy-2-hydroxymethyl-2-methylpropionate

[0793] 1 N Aqueous sodium hydroxide (2.6 mL) was added to a solution of benzyl 3-benzyloxy-2-benzyloxymethyl-2-methylpropionate obtained in Step A (350 mg, 0.87 mmol) in THF (2.6 mL), and the mixture was stirred under reflux for three hours. Water and ethyl acetate were added to the mixture to separate the aqueous layer. 1 N hydrochloric acid was added to the aqueous layer to make the aqueous layer acidic, followed by extraction with ethyl acetate. The extract was dried over anhydrous magnesium sulfate, and the solvent was evaporated under reduced pressure. From the resulting residue, crude 3-benzyloxy-2-benzyloxymethyl-2-methylpropionic acid (95 mg) was obtained as a colorless oil without purification. Condensation was carried out by a method similar to that of Example 3-1 using 3-benzyloxy-2-benzyloxymethyl-2-methylpropionic acid obtained above instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14, and deprotection was carried out by a method similar to that of Example 1-36 using a 10% Pd-C catalyst in a hydrogen atmosphere to synthesize the title compound.

[0794] ^{1}H-NMR (DMSO-d_6) δ: 0.98 (3H, s), 3.30-3.49 (3H, m), 3.92-4.03 (1H, m), 4.21-4.37 ((3H, m), 4.60-4.77 (2H,

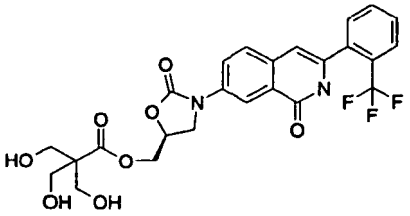
m), 4.92-5.04 (1H, m), 6.48 (1H, s), 7.57-7.91 (5H, m), 8.06 (1H, dd, J=8.7, 2.4Hz), 8.23 (1H, d, J=2.4Hz), 11.62 (1H, s).
ESI (LC-MS positive mode) m/z 521 (M+H)

[Example 4-17]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-hydroxy-2,2-bishydroxymethylpropionate

[0795]

[Formula 247]

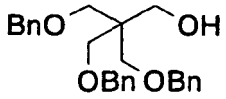


Step A

3-Benzyloxy-2,2-bis(benzyloxymethyl)propan-1-ol

[0796]

[Formula 248]



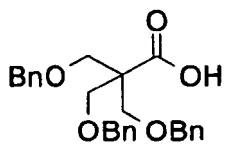
[0797] Sodium hydride (440 mg, 11.01 mmol) and benzyl bromide (1.3 mL, 11.01 mmol) were added to 20 mL of a solution of pentaerythritol (500 mg, 3.67 mmol) in DMF, and the mixture was stirred at room temperature for 14 hours. Aqueous saturated ammonium chloride was added to the mixture, followed by extraction with ethyl acetate. The extract was washed with saturated saline and then dried over anhydrous sodium sulfate, and the solvent was evaporated under reduced pressure. The resulting residue was purified by silica gel column chromatography (hexane : ethyl acetate = 5 : 1) to obtain 3-benzyloxy-2,2-bis(benzyloxymethyl)propan-1-ol (560 mg, 38%) as a colorless oil.
[0798] ^{1}H-NMR($CDCl_3$) δ: 3.57 (6H, s), 3.78 (2H, s), 4.49 (6H, s), 7.28-7.37 (15H, m)
ESI (LC-MS positive mode) m/z 407 (M+H)

Step B

3-Benzyloxy-2,2-bis(benzyloxymethyl)propionic acid

[0799]

[Formula 249]



[0800] A Jones reagent (0.984 mmol) was added to 5 mL of a solution of 3-benzyloxy-2,2-bis(benzyloxymethyl)propan-

1-ol (200 mg, 0.492 mmol) obtained in the Step A in acetone under ice-cooling, and the mixture was stirred at room temperature for one hour. Water was added to the mixture, followed by extraction with ethyl acetate. The extract was washed with saturated saline and then dried over anhydrous sodium sulfate, and the solvent was evaporated under reduced pressure to obtain 3-benzyloxy-2,2-bis(benzyloxymethyl)propionic acid (206 mg, 100%) as a colorless solid.

[0801] ^{1}H-NMR($CDCl_3$) δ: 3.73 (6H, s), 4.51 (6H, s), 7.27-7.33 (15H, m)
ESI (LC-MS positive mode) m/z 421 (M+H)

Step C

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-hydroxy-2,2-bishydroxymethylpropionate

[0802] Condensation was carried out by a method similar to that of Example 3-1 using 3-benzyloxy-2,2-bis(benzyloxymethyl)propionic acid obtained in Step B instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14, and deprotection was carried out by a method similar to that of Example 1-36 using a 10% Pd-C catalyst in a hydrogen atmosphere to synthesize the title compound.

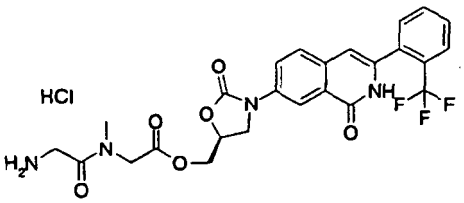
[0803] ^{1}H-NMR (CD_3OD) δ: 3.70 (3H, s), 3.71 (3H, s), 4.13 (1H, dd, J=5.6, 9.1Hz), 4.35 (1H, t, J=9.1Hz), 4.44 (2H, d, J=3.3Hz), 5.02-5.08 (1H, m), 6.61 (1H, d, J=7.6Hz), 7.66-7.77 (3H, m), 7.85 (1H, d, J=6.9Hz), 8.26-8.31 (2H, m)
ESI (LC-MS positive mode) m/z 537 (M+H)

[Example 4-18]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-aminoacetyl)methylaminoacetate hydrochloride

[0804]

[Formula 250]



[0805] The title compound was synthesized by a method similar to that of Example 3-1 using Boc-Gly-Sar-OH instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

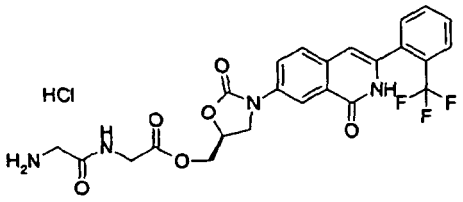
[0806] ^{1}H-NMR (270MHz, DMSO-d_6) δ (ppm): 2.88 (1H, s), 3.00 (2H, s), 3.80-4.04 (3H, m), 4.24-4.34 (3H, m), 4.41-4.45 (2H, m), 4.9-5.1 (1H, m), 6.51 (1H, s), 7.64 (1H, d, J=7.42Hz), 7.69-7.82 (3H, m), 7.86-7.89 (1H, m), 8.07-8.14 (3H, m), 8.22-8.23 (1H, m), 11.64 (1H, brs)
ESI (LC-MS positive mode) m/z 533 (M+H)

[Example 4-19]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 2-aminoacetylaminoacetate hydrochloride

[0807]

[Formula 251]



[0808] The title compound was synthesized by a method similar to that of Example 3-1 using Boc-Gly-Gly-OH instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

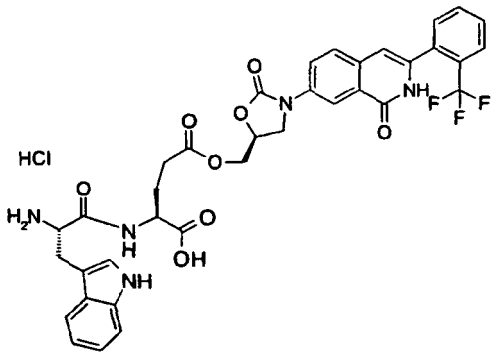
[0809] ^{1}H-NMR (400MHz, DMSO-d_6) δ (ppm): 3.60-3.64 (2H, m), 3.98-4.06 (3H, m), 4.27-4.32 (1H, m), 4.38-4.46 (2H, m), 4.98-5.04 (1H, m), 6.50 (1H, s), 7.63 (1H, d, J=7.32Hz), 7.7-7.8 (3H, m), 7.88 (1H, d, J=6.84Hz), 8.07-8.1 (3H, m), 8.23 (1H, d, J=2.44Hz), 8.85 (1H, t, J=5.86Hz), 11.6 (1H, brs)
ESI (LC-MS positive mode) m/z 519 (M+H)

[Example 4-20]

5-{(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl} (S)-2-[(S)-2-amino-3-(1H-indol-3-yl)propionylamino]-pentanedioate,

[0810]

[Formula 252]



[0811] The title compound was synthesized by a method similar to that of Example 3-1 using Boc-Trp-Glu(OH)-OtBu instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

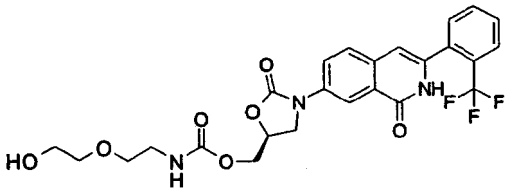
[0812] ^{1}H-NMR (400MHz, DMSO-d_6) δ (ppm): 1.80-1.95 (1H, m), 2.05-2.15 (1H, m), 2.45-2.47, 2.98-3.04 (1H, m), 3.17-3.23, 3.39-3.51, 3.97-4.00 (2H, m), 4.27-4.40 (4H, m), 4.9-5.0 (1H, m), 6.49 (1H, s), 6.99-7.03 (1H, m), 7.08-7.11 (1H, m), 7.23 (1H, m), 7.37 (1H, d, J=8.30Hz), 7.63 (1H, d, J=7.81Hz), 7.69-7.80 (4H, m), 7.88 (1H, d, J=7.81Hz), 8.08 (1H, dd, J=2.44, 8.79Hz), 8.23 (1H, d, J=2.44Hz), 8.77 (brs), 10.99 (1H, brs)
ESI (LC-MS positive mode) m/z 742 (M+H)

[Example 4-21]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-hydroxyethoxy) ethyl]carbamate

[0813]

[Formula 253]



[0814] The title compound was synthesized by a method similar to that of Example 4-23 using 2-(2-aminoethoxy) ethanol instead of DL-3-amino-1,2-propanediol.

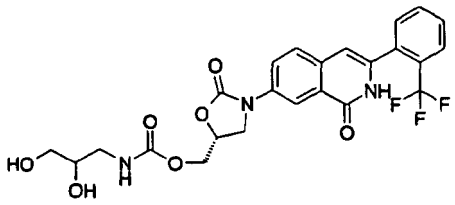
[0815] ^{1}H-NMR ($CDCl_3$) δ: 3.32 (2H, dd, J=5.1, 10.0Hz), 3.44-3.51 (4H, m), 3.64 (2H, t, J=4.8Hz), 4.02 (1H, dd, J=6.6, 9.1Hz), 4.21 (1H, t, J=9.1Hz), 4.32 (1H, dd, J=4.6, 12.2Hz), 4.40 (1H, dd, J=3.7, 12.2Hz), 4.84-4.93 (1H, m), 6.11 (1H, t, J=5.3Hz), 6.49 (1H, s), 7.52-7.67 (4H, m), 7.77 (1H, d, J=7.4Hz), 7.92 (1H, d, J=2.3Hz), 8.42 (1H, dd, J=2.3, 8.9Hz), 9.83 (1H, brs)
ESI (LC-MS positive mode) m/z 536 (M+H)

[Example 4-22]

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2,3-dihydroxypropyl) carbamate

[0816]

[Formula 254]



[0817] The title compound was synthesized by a method similar to that of Example 4-23 using 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxo-oxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

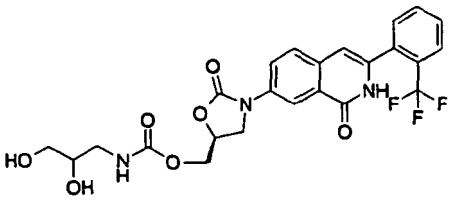
[0818] ^{1}H-NMR ($CDCl_3$) δ: 2.75-3.40(5H, m), 3.40-3.61(1H, m), 3.82-4.33(3H, m), 4.45-4.60(1H, m), 4.65-4.75(1H, m), 4.83-5.02(1H, m), 6.48 (1H, s), 7.23(1H, t, J=5.7Hz), 7.55-7.91 (5H, m), 8.06 (1H, dd, J = 8.7, 2.5Hz), 8.23 (1H, d, J = 2.5 Hz), 11.63 (1H, s)
ESI (LC-MS positive mode) m/z 522 (M+H)

[Example 4-23]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2,3-dihydroxypropyl) carbamate

[0819]

[Formula 255]



[0820] 4-Nitrophenyl chloroformate (100 mg, 0.5 mmol) was added to a solution of 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 (40 mg, 0.10 mmol) in pyridine (1 mL), and the mixture was stirred at room temperature for 17 hours. DL-3-amino-1,2-propanediol (180 mg, 1.98 mmol) was added to the reaction mixture which was then stirred at room temperature for five hours. 1 N Hydrochloric acid was added to the mixture under ice-cooling, followed by extraction with ethyl acetate and washing with saturated saline. The extract was dried over anhydrous magnesium sulfate, and the solvent was evaporated under reduced pressure. The resulting residue was purified by silica gel column chromatography (methylene chloride : methanol = 10 : 1) to obtain (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ((2,3-dihydroxypropyl)carbamate (23 mg, yield: 45%) as a colorless oil.

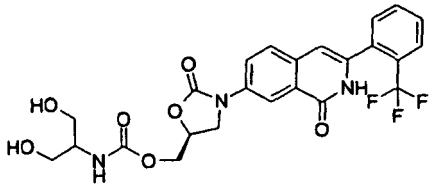
[0821] ^{1}H-NMR (DMSO-d_6) δ: 2.75-3.40 (5H, m), 3.40-3.61 (1H, m), 3.82-4.33 (3H, m), 4.45-4.60 (1H, m), 4.65-4.75 (1H, m), 4.83-5.02 (1H, m), 6.48 (1H, s), 7.23 (1H, t, J=5.7Hz), 7.55-7.91 (5H, m), 8.06 (1H, dd, J=8.7, 2.5Hz), 8.23 (1H, d, J=2.5Hz), 11.63 (1H, s).
ESI (LC-MS positive mode) m/z 522 (M+H)

[Example 4-24]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-hydroxy-1-hydroxymethylethyl)carbamate

[0822]

[Formula 256]



[0823] The title compound was synthesized by a method similar to that of Example 4-23 using 2-aminopropane-1,3-diol instead of DL-3-amino-1,2-propanediol.

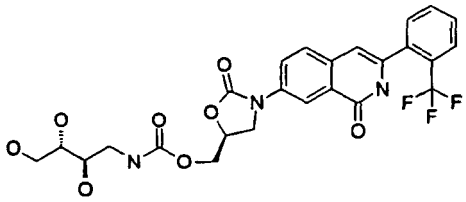
[0824] ^{1}H-NMR (DMSO-d_6) δ: 3.28-3.45 (2H, m), 3.90-4.01 (1H, m), 4.15-4.36 (4H, m), 4.52-4.65 (1H, m), 6.49 (1H, s), 6.98 (1H, d, J=7.6Hz), 7.60-7.91 (5H, m), 8.08 (1H, dd, J=8.8, 2.4Hz), 8.23 (1H, d, J=2.4Hz), 11.62 (1H, s).
ESI (LC-MS positive mode) m/z 522 (M+H)

[Example 4-25]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [(2R,3S)-2,3,4-trihydroxybutyl]carbamate

[0825]

[Formula 257]



[0826] The title compound was synthesized by a method similar to that of Example 4-23 using (2S,3R)-4-aminobutane-1,2,3-triol instead of DL-3-amino-1,2-propanediol.

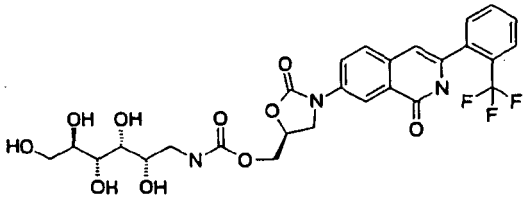
[0827] ^{1}H-NMR (CD_3OD) δ: 3.08-3.35 (2H, m), 3.46-3.72 (4H, m), 4.03-4.13 (1H, m), 4.25-4.48 (3H, m), 4.92-5.05 (1H, m), 6.60 (1H, s), 7.55-7.88 (5H, m), 8.26 (2H, dd, J=4.5, 2.4Hz)
ESI (LC-MS positive mode) m/z 522 (M+H)

[Example 4-26]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [(2S,3R,4R,5R)-2,3,4,5,6-pentahydroxyhexyl]carbamate

[0828]

[Formula 258]



[0829] The title compound was synthesized by a method similar to that of Example 4-23 using D-glucamine instead of DL-3-amino-1,2-propanediol.

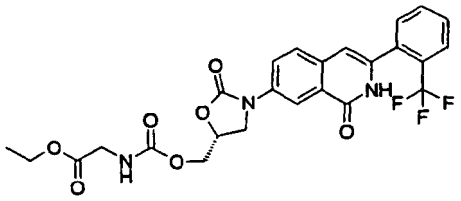
[0830] ^{1}H-NMR (CD_3OD) δ: 3.05-3.41 (2H, m), 3.53-3.86 (6H, m), 4.00-4.13 (1H, m), 4.24-4.48 (3H, m), 4.92-5.06 (1H, m), 6.61 (1H, s), 7.55-7.89 (5H, m), 8.27 (2H, d, J=7.3Hz).
ESI (LC-MS positive mode) m/z 612 (M+H)

[Example 4-27]

Ethyl {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonylamino}acetate

[0831]

[Formula 259]



[0832] Ethyl isocyanatoacetate (6.6 μL, 0.059 mmol) and triethylamine (10.3 μL, 0.074 mmol) were added to a solution of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of

Example 1-14 (20 mg, 0.050 mmol) in dichloromethane, and the mixture was stirred at room temperature for four hours. Aqueous saturated ammonium chloride was added to the mixture, followed by extraction with dichloromethane. The extract was dried over anhydrous sodium sulfate, and then the solvent was evaporated under reduced pressure. The resulting residue was purified by aminosilica gel column chromatography (methylene chloride : methanol = 50 : 1) to obtain 24 mg (92%) of ethyl {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl-methoxycarbonylamino}acetate as a colorless oil.

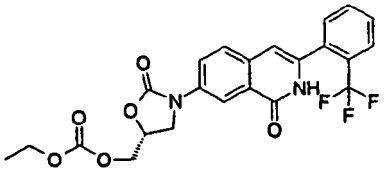
[0833] ^{1}H-NMR ($CDCl_3$) δ: 1.27 (3H, t, J=7.8Hz), 3.93 (1H, dd, J=1.8, 5.7Hz), 3.99 (1H, d, J=5.3Hz), 4.04-4.28 (4H, m), 4.36 (1H, dd, J=4.9, 12.2Hz), 4.50 (1H, dd, J=3.8, 12.2Hz), 4.87-4.96 (1H, m), 6.49 (1H, s), 7.52-7.68 (4H, m), 7.80 (1H, d, J=7.6Hz), 7.89 (1H, d, J=2.5Hz), 8.49 (1H, dd, J=2.5, 8.7Hz), 9.49 (1H, brs)
ESI (LC-MS positive mode) m/z 534 (M+H)

[Example 4-28]

Ethyl carbonate (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0834]

[Formula 260]



[0835] Ethyl chloroformate (5.7 μL, 0.059 mmol) and triethylamine (10.3 μL, 0.074 mmol) were added to a solution of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14 (20 mg, 0.050 mmol) in dichloromethane, and the mixture was stirred at room temperature for 18 hours. Aqueous saturated ammonium chloride was added to the mixture, followed by extraction with dichloromethane. The extract was dried over anhydrous sodium sulfate, and then the solvent was evaporated under reduced pressure. The resulting residue was purified by aminosilica gel column chromatography (methylene chloride : methanol = 50 : 1) to obtain 4 mg (17%) of ethyl carbonate (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester as a colorless oil.

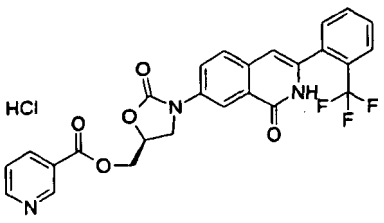
[0836] ^{1}H-NMR ($CDCl_3$) δ: 1.32 (3H, t, J=7.1Hz), 4.06 (1H, dd, J=6.5, 9.3Hz), 4.23 (2H, dd, J=7.3, 14.3Hz), 4.40 (1H, dd, J=4.8, 12.0Hz), 4.47 (2H, dd, J=4.3, 12.0Hz), 4.93-4.99 (1H, m), 6.53 (1H, s), 7.55-7.68 (1H, m), 7.83 (1H, dd, J=1.5, 7.2Hz), 7.94 (1H, d, J=2.5Hz), 8.58 (1H, dd, J=2.5, 8.9Hz), 8.67 (1H, brs)
ESI (LC-MS positive mode) m/z 477 (M+H)

[Example 4-29]

(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl nicotinate hydrochloride

[0837]

[Formula 261]



[0838] The title compound was synthesized by a condensation method similar to that of Step A of Example 3-1 using

nicotinic acid instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

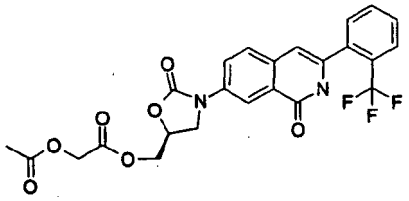
[0839] ^{1}H-NMR (DMSO-d_6) δ: 4.18 (1H, dd, J=6.3, 9.2Hz), 4.37-4.43 (1H, m), 4.62 (1H, dd, J=4.8, 12.5Hz), 4.69 (1H, dd, J=2.9, 12.2Hz), 5.13-5.21 (1H, m), 6.50 (1H, s), 7.64-7.82 (5H, m), 7.88 (1H, d, J=7.6Hz), 8.11 (1H, d, J=8.6Hz), 8.25 (1H, s), 8.37 (1H, d, J=7.6Hz), 8.85 (1H, d, J=5.0Hz), 9.09 (1H, s), 11.63 (1H, brs)
ESI (LC-MS positive mode) m/z 510 (M+H)

[Example 4-30]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl acetoxyacetate

[0840]

[Formula 262]



[0841] The title compound was synthesized by a condensation method similar to that of Step A of Example 3-1 using acetoxyacetic acid instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

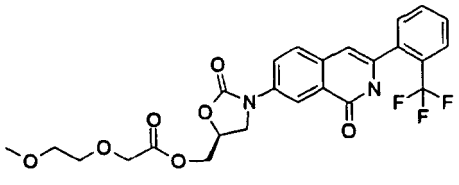
[0842] ^{1}H-NMR ($CDCl_3$) δ: 2.09 (3H, s), 4.00 (1H, dd, J=6.4, 9.4Hz), 4.27 (1H, t, J=9.2Hz), 4.45 (1H, dd, J=4.9, 12.2Hz), 4.52 (1H, dd, J=3.8, 12.2Hz), 4.64 (2H, s), 4.93-5.02 (1H, m), 6.51 (1H, s), 7.55-7.69 (4H, m), 7.80 (1H, d, J=7.4Hz), 7.94 (1H, d, J=2.5Hz), 8.49 (1H, dd, J=2.5, 8.8Hz), 9.48 (1H, brs)
ESI (LC-MS positive mode) m/z 505 (M+H)

[Example 4-31]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-methoxyethoxy)acetate

[0843]

[Formula 263]



[0844] The title compound was synthesized by a condensation method similar to that of Step A of Example 3-1 using (2-methoxyethoxy)acetic acid instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

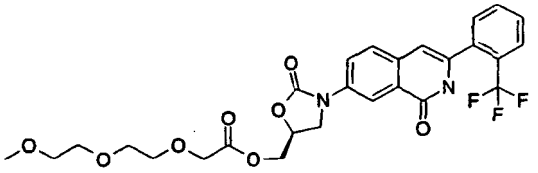
[0845] ^{1}H-NMR ($CDCl_3$) δ: 3.32 (3H, s), 3.51 (2H, t, J=4.3Hz), 3.68 (2H, t, J=4.3Hz), 4.00 (1H, dd, J=6.3, 9.2Hz), 4.20 (2H, s), 4.27 (1H, t, J=9.2Hz), 4.38 (1H, dd, J=4.9, 12.2Hz), 4.49 (1H, dd, J=4.0, 12.2Hz), 4.91-4.99 (1H, m), 6.50 (1H, s), 7.52-7.69 (4H, m), 7.79 (1H, d, J=8.9Hz), 7.91 (1H, d, J=2.5Hz), 8.54 (1H, dd, J=2.5, 8.9Hz), 8.72 (1H, brs)
ESI (LC-MS positive mode) m/z 521 (M+H)

[Example 4-32]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-methoxyethoxy) ethoxy]acetate

[0846]

[Formula 264]



[0847] The title compound was synthesized by a condensation method similar to that of Step A of Example 3-1 using 2-(2-methoxyethoxy)ethoxyacetic acid instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14.

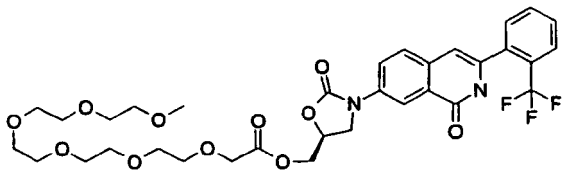
[0848] ^{1}H-NMR ($CDCl_3$) δ: 3.35 (3H, s), 3.51-3.55 (2H, m), 3.59-3.66 (4H, m), 3.70-3.74 (2H, m), 4.00 (1H, dd, J=6.3, 9.3Hz), 4.22 (2H, d, J=0.5Hz), 4.28 (1H, t, J=9.2Hz), 4.42 (1H, dd, J=5.1, 12.2Hz), 4.51 (1H, dd, J=2.8, 12.2Hz), 4.93-4.99 (1H, m), 6.52 (1H, s), 7.56-7.70 (4H, m), 7.80 (1H, d, J=6.9Hz), 7.92 (1H, d, J=2.5Hz), 8.51 (1H, dd, J=2.5, 8.9Hz), 9.33 (1H, brs)
ESI (LC-MS positive mode) m/z 565 (M+H)

[Example 4-33]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]acetate

[0849]

[Formula 265]



[0850] The title compound was synthesized by a condensation method similar to that of Step A of Example 3-1 using [2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]acetic acid instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14. However, [2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]acetic acid was synthesized by a method similar to that of Step A of Example 4-39 using pentaethylene glycol monomethyl ether instead of pentaethylene glycol monobenzyl ether.

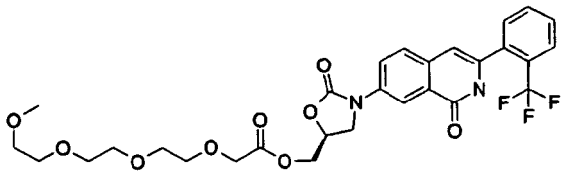
[0851] ^{1}H-NMR ($CDCl_3$) δ: 3.36 (3H, s), 3.52-3.75 (20H, m), 4.01 (1H, dd, J=6.2, 9.4Hz), 4.22 (2H, s), 4.29 (1H, t, J=9.1Hz), 4.42 (1H, dd, J=5.1, 12.2Hz), 4.51 (1H, dd, J=3.9, 12.2Hz), 4.96-5.01 (1H, m), 6.53 (1H, s), 7.56-7.71 (1H, m), 7.81 (1H, d, J=6.8Hz), 7.94 (1H, d, J=2.5Hz), 8.53 (1H, dd, J=2.5, 8.9Hz), 9.16 (1H, brs)
ESI (LC-MS positive mode) m/z 697 (M+H)

[Example 4-34]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-methoxyethoxy)ethoxy]ethoxy}acetate

[0852]

[Formula 266]



[0853] The title compound was synthesized by a condensation method similar to that of Step A of Example 3-1 using {2-[2-(2-methoxyethoxy)ethoxy]ethoxy}acetic acid instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14. However, {2-[2-(2-methoxyethoxy)ethoxy]ethoxy}acetic acid was synthesized by a method similar to that of Step A of Example 4-39 using triethylene glycol monomethyl ether instead of pentaethylene glycol monobenzyl ether.

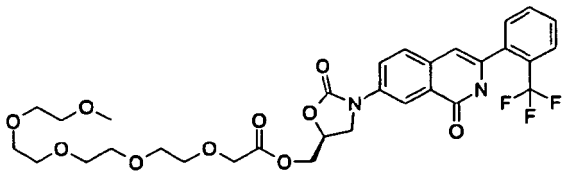
[0854] ^{1}H-NMR ($CDCl_3$) δ: 3.35 (3H, s), 3.51-3.75 (12H, m), 4.01 (1H, dd, J=6.2, 9.2Hz), 4.17-4.32 (3H, m), 4.42 (1H, dd, J=5.1, 12.2Hz), 4.51 (1H, dd, J=3.8, 12.2Hz), 4.93-5.02 (1H, m), 6.52 (1H, s), 7.56-7.70 (4H, m), 7.81 (1H, d, J=6.8Hz), 7.93 (1H, dd, J=2.5, 8.9Hz), 9.19 (1H, brs)
ESI (LC-MS positive mode) m/z 608 (M+H)

[Example 4-35]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)acetate

[0855]

[Formula 267]



[0856] The title compound was synthesized by a condensation method similar to that of Step A of Example 3-1 using (2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)acetic acid instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14. However, (2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)acetic acid was synthesized by a method similar to that of Step A of Example 4-39 using tetraethylene glycol monomethyl ether instead of pentaethylene glycol monobenzyl ether.

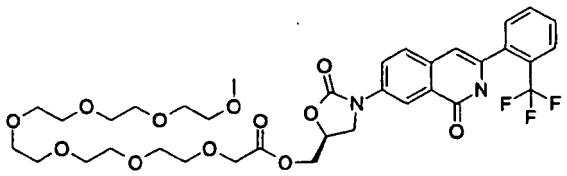
[0857] ^{1}H-NMR ($CDCl_3$) δ: 3.36 (3H, s), 3.52-3.75 (16H, m), 4.02 (1H, dd, J = 6.4, 9.4 Hz), 4.17-4.33 (3H, m), 4.42 (1H, dd, J = 5.1, 12.2 Hz), 4.51 (1H, dd, J = 4.0, 12.2 Hz), 4.94-5.03 (1H, m), 6.53 (1H, s), 7.56-7.71 (4H, m), 7.82 (1H, d, J = 7.4 Hz), 7.94 (1H, d, J = 2.5 Hz), 8.54 (1H, dd, J = 2.5, 8.9 Hz), 9.09 (1H, brs)
ESI (LC-MS positive mode) m/z 653 (M+H)

[Example 4-36]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}acetate

[0858]

[Formula 268]



[0859] The title compound was synthesized by a condensation method similar to that of Step A of Example 3-1 using {2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}acetic acid instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14. However, {2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}acetic acid was synthesized by a method similar to that of Step A of Example 4-39 using hexaethylene glycol monomethyl ether instead of pentaethylene glycol monobenzyl ether.

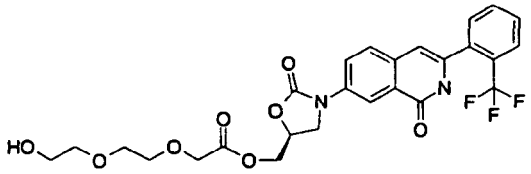
[0860] ^{1}H-NMR ($CDCl_3$) δ: 3.36 (3H, s), 3.52-3.75 (24H, m), 4.02 (1H, dd, J=4.9, 12.2Hz), 4.17-4.33 (3H, m), 4.41 (1H, dd, J=4.9, 12.2Hz), 4.51 (1H, dd, J=4.0, 12.2Hz), 4.94-5.00 (1H, m), 6.53 (1H, s), 7.55-7.71 (4H, m), 7.82 (1H, d, J=7.2Hz), 7.94 (1H, d, J=2.3Hz), 8.57 (1H, dd, J=2.3, 8.8Hz), 8.74 (1H, brs)
ESI (LC-MS positive mode) m/z 741 (M+H)

[Example 4-37]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-hydroxyethoxy)ethoxy]acetate

[0861]

[Formula 269]



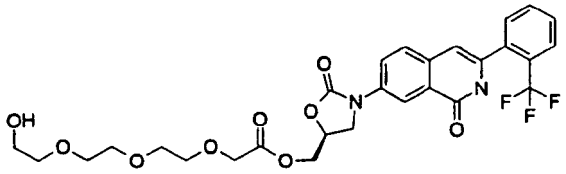
[0862] The title compound was synthesized by a method similar to that of Example 4-39 using diethylene glycol monobenzyl ether instead of pentaethylene glycol monobenzyl ether.

[0863] ^{1}H-NMR ($CDCl_3$) δ: 3.56-3.76 (8H, m), 4.05 (1H, dd, J=6.2, 9.2Hz), 4.22 (2H, s), 4.29 (1H, t, J=9.2Hz), 4.43 (1H, dd, J=4.9, 12.2Hz), 4.52 (1H, dd, J=3.8, 12.2Hz), 4.94-5.03 (1H, m), 6.53 (1H, s), 7.55-7.71 (1H, m), 7.81 (1H, d, J=7.1Hz), 7.95 (1H, d, J=2.5Hz), 8.55 (1H, dd, J=2.5, 8.9Hz), 8.95 (1H, brs)
ESI (LC-MS positive mode) m/z 551 (M+H)

[Example 4-38]

[0864] (S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}acetate

[Formula 270]



[0865] The title compound was synthesized by a method similar to that of Example 4-39 using triethylene glycol monobenzyl ether instead of pentaethylene glycol monobenzyl ether.

[0866] ^{1}H-NMR ($CDCl_3$) δ: 3.56-3.77 (12H, m), 4.04 (1H, dd, J=6.2, 9.3Hz), 4.17-4.35 (3H, m), 4.42 (1H, dd, J=5.0, 12.2Hz), 4.52 (1H, dd, J=3.9, 12.2Hz), 4.94-5.03 (1H, m), 6.53 (1H, s), 7.55-7.71 (4H, m), 7.82 (1H, d, J=7.6Hz), 7.95 (1H, d, J=2.5Hz), 8.55 (1H, dd, J=2.5, 8.9Hz), 8.92 (1H, s)

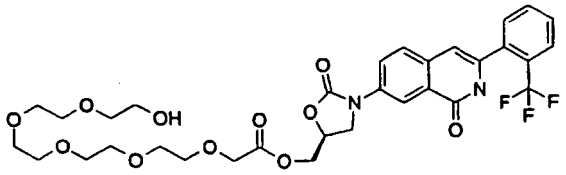
ESI (LC-MS positive mode) m/z 595 (M+H)

[Example 4-39]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]acetate

[0867]

[Formula 271]

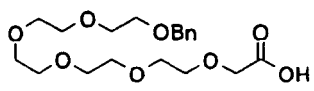


Step A

[2-(2-{2-[2-(2-Benzyloxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]acetic acid

[0868]

[Formula 272]



[0869] Metal sodium (115 mg, 5.0 mmol) was added to pentaethylene glycol monobenzyl ether (328 mg, 1.0 mmol), and the mixture was stirred at 90°C for three hours. Chloroacetic acid (47 mg, 0.5 mmol) was added to the mixture which was then stirred at 90°C for 16 hours. Water was added to the mixture which was then washed with ethyl acetate. Next, the aqueous layer was made acidic by 1 N hydrochloric acid, followed by extraction with ethyl acetate. The extract was dried over anhydrous sodium sulfate, and then the solvent was evaporated under reduced pressure to obtain 390mg of crude [2-(2-{2-[2-(2-benzyloxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]acetic acid in the form of a reddish brown substance.

Step B

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]acetate

[0870] Condensation was carried out by a method similar to that of Example 3-1 using crude [2-(2-{2-[2-(2-benzyloxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]acetic acid obtained in Step A instead of Boc-Sar-OH and 7-((S)-5-hydroxyme-

thyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14, and deprotection was carried out by a method similar to that of Example 1-36 using a 10% Pd-C catalyst in a hydrogen atmosphere to synthesize the title compound.

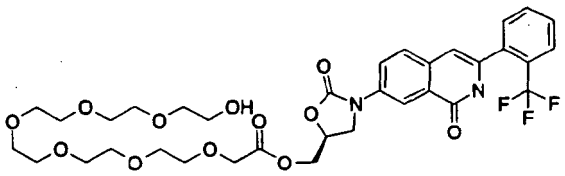
[0871] ^{1}H-NMR ($CDCl_3$) δ: 3.55-3.75 (20H, m), 4.02 (1H, dd, J=6.2, 9.2Hz), 4.22-4.33 (3H, m), 4.42 (1H, dd, J=5.0, 12.2Hz), 4.51 (1H, dd, J=3.7, 12.2Hz), 4.94-5.03 (1H, m), 6.52 (1H, s), 7.56-7.70 (4H, m), 7.80 (1H, d, J=7.4Hz), 7.94 (1H, d, J=2.3Hz), 8.51 (1H, dd, J=2.3, 8.9Hz), 9.40 (1H, brs)
ESI (LC-MS positive mode) m/z 683 (M+H)

[Example 4-40]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}acetate

[0872]

[Formula 273]



[0873] The title compound was synthesized by a method similar to that of Example 4-39 using hexaethylene glycol monobenzyl ether instead of pentaethylene glycol monobenzyl ether.

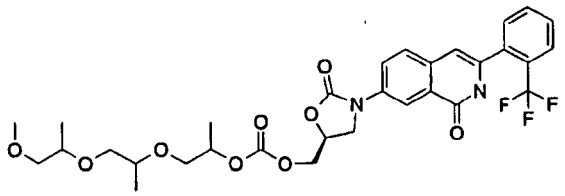
[0874] ^{1}H-NMR ($CDCl_3$) δ: 3.56-3.75 (24H, m), 4.02 (1H, dd, J=6.3, 9.2Hz), 4.15-4.37 (3H, m), 4.42 (1H, dd, J=5.0, 12.2Hz), 4.51 (1H, dd, 3.8, 12.2Hz), 4.92-5.02 (1H, m), 6.53 (1H, s), 7.56-7.70 (4H, m), 7.81 (1H, d, J=6.9Hz), 7.95 (1H, d, J=2.5Hz), 8.52 (1H, dd, J=2.5, 8.9Hz), 9.30 (1H, brs)
ESI (LC-MS positive mode) m/z 727 (M+H)

[Example 4-41]

2-[2-(2-Methoxy-1-methylethoxy)-1-methylethoxy]-1-methylethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0875]

[Formula 274]



[0876] The title compound was synthesized by a method similar to that of Example 4-45 using 2-[2-(2-methoxy-1-methylethoxy)-1-methylethoxy]-1-methylethanol instead of hexaethylene glycol monobenzyl ether.

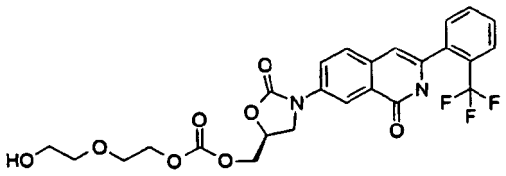
[0877] ^{1}H-NMR ($CDCl_3$) δ: 1.12 (6H, d, J=5.1Hz), 1.26-1.31 (3H, m), 3.27-3.63 (9H, m), 3.35 (3H, s), 4.04 (1H, dd, J=6.6, 9.2Hz), 4.26 (1H, t, J=9.0Hz), 4.39-4.50 (2H, m), 4.86-4.98 (1H, m), 6.51 (1H, s), 7.55-7.70 (4H, m), 7.81 (1H, d, J=7.3Hz), 7.92 (1H, d, J=2.5Hz), 8.53 (1H, dd, J=2.5, 8.7Hz), 9.23 (1H, brs)
ESI (LC-MS positive mode) m/z 637 (M+H)

[Example 4-42]

2-(2-Hydroxyethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0878]

[Formula 275]



[0879] The title compound was synthesized by a method similar to that of Example 4-45 using diethylene glycol monobenzyl ether instead of hexaethylene glycol monobenzyl ether.

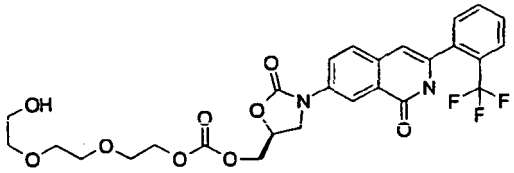
[0880] ^{1}H-NMR ($CDCl_3$) δ: 3.59 (4H, dd, J=3.8, 8.6Hz), 3.71 (4H, dd, 3.3, 5.4Hz), 4.07 (1H, dd, 6.4, 9.0Hz), 4.23-4.34 (1H, m), 4.42 (1H, dd, J=4.7, 12.0Hz), 4.51 (1H, dd, J=4.0, 12.0Hz), 4.92-5.01 (1H, m), 6.52 (1H, s), 7.52-7.69 (4H, m), 7.80 (1H, d, J=7.6Hz), 7.91 (1H, d, J=2.5Hz), 8.52 (1H, dd, J=2.5, 8.7Hz)
ESI (LC-MS positive mode) m/z 537(M+H).

[Example 4-43]

2-[2-(2-Hydroxyethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0881]

[Formula 276]



[0882] The title compound was synthesized by a method similar to that of Example 4-45 using triethylene glycol monobenzyl ether instead of hexaethylene glycol monobenzyl ether.

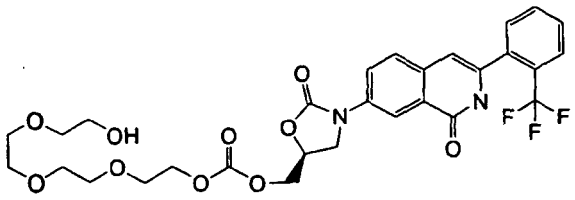
[0883] ^{1}H-NMR ($CDCl_3$) δ: 3.57-3.73 (12H, m), 4.08 (1H, dd, J=6.6, 9.2Hz), 4.24-4.34 (1H, m), 4.42 (1H, dd, J=4.8, 11.9Hz), 4.49 (1H, dd, J=4.2, 11.9Hz), 4.93-5.02 (1H, m), 6.52 (1H, s), 7.55-7.69 (4H, m), 7.79 (1H, d, J=7.4Hz), 7.92 (1H, d, J=2.3Hz), 8.51 (1H, dd, J=2.3, 11.0Hz)
ESI (LC-MS positive mode) m/z 581 (M+H)

[Example 4-44]

2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0884]

[Formula 277]



The title compound was synthesized by a method similar to that of Example 4-45 using tetraethylene glycol monobenzyl ether instead of hexaethylene glycol monobenzyl ether.

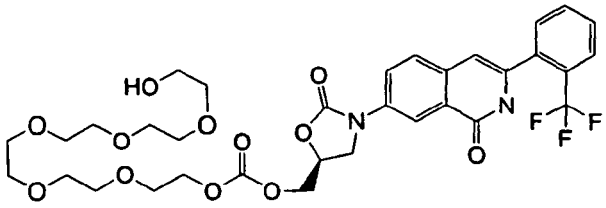
[0885] ^{1}H-NMR ($CDCl_3$) δ: 3.57-3.79 (16H, m), 4.07 (1H, dd, J=6.8, 9.2Hz), 4.25-4.34 (1H, m), 4.41 (1H, dd, J=4.9, 11.9Hz), 4.49 (1H, dd, J=4.3, 11.9Hz), 4.92-5.02 (1H, m), 6.52 (1H, s), 7.55-7.70 (4H, m), 7.81 (1H, d, J=7.6Hz), 7.94 (1H, s), 8.54 (1H, d, J=8.9Hz)
ESI (LC-MS positive mode) m/z 625 (M+H)

[Example 4-45]

2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0886]

[Formula 278]



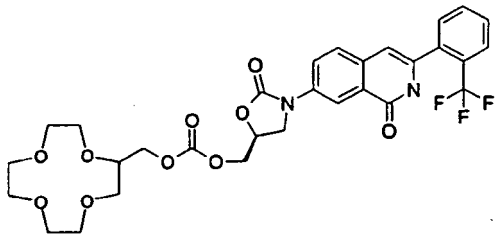
[0887] 4-Nitrophenyl chloroformate was added to 1 mL of a solution of 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 (30 mg, 0.074 mmol) in pyridine, and the mixture was stirred at room temperature for six hours. Hexaethylene glycol monobenzyl ether (138 mg, 0.370 mmol) was added to the mixture which was then stirred at 60°C for 14 hours. 1 N hydrochloric acid was added to the mixture, followed by extraction with ethyl acetate. The extract was washed with saturated saline and then dried over anhydrous sodium sulfate, and then the solvent was evaporated under reduced pressure. The resulting residue was purified by silica gel column chromatography (methylene chloride : methanol = 50 : 1) to obtain 2-[2-(2-{2-[2-(2-benzyloxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]-oxazolidin-5-ylmethyl ester (22 mg, yield: 37%) as a colorless oil. The product was deprotected by a method similar to that of Example 1-36 using a 10% Pd-C catalyst in a hydrogen atmosphere to synthesize the title compound.
[0888] ^{1}H-NMR ($CDCl_3$) δ: 3.57-3.74 (24H, m), 4.07 (1H, dd, J=6.4, 9.2Hz), 4.25-4.34 (1H, m), 4.41 (1H, dd, J=4.8, 11.9Hz), 4.49 (1H, dd, J=4.3, 11.9Hz), 4.93-5.01 (1H, m), 6.53 (1H, s), 7.56-7.68 (4H, m), 7.81 (1H, d, J=7.4Hz), 7.93 (1H, d, J=2.5Hz), 8.55 (1H, dd, J=2.5, 9.8Hz), 9.14 (1H, brs)
ESI (LC-MS positive mode) m/z 713 (M+H)

[Example 4-46]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl carbonate 1,4,7,10-tetraoxacyclododec-2-ylmethyl ester

[0889]

[Formula 279]



[0890] The title compound was synthesized by a method similar to that of Example 4-45 using 1,4,7,10-tetraoxacyclododec-2-ylmethyl alcohol instead of hexaethylene glycol monobenzyl ether.

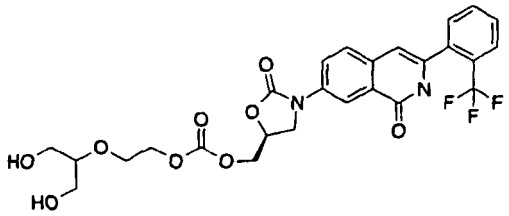
[0891] ^{1}H-NMR ($CDCl_3$) δ: 3.55-3.92 (16H, m), 4.05 (1H, dd, J=6.4, 8.2Hz), 4.13-4.31 (2H, m), 4.38-4.52 (2H, m), 4.92-5.01 (1H, m), 6.52 (1H, s), 7.55-7.71 (4H, m), 7.82 (1H, d, J=7.4Hz), 7.93 (1H, d, J=2.3Hz), 8.55 (1H, dd, J=2.3, 8.7Hz), 8.86 (1H, brs)
ESI (LC-MS positive mode) m/z 637 (M+H)

[Example 4-47]

2-(2-Hydroxy-1-hydroxymethylethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0892]

[Formula 280]

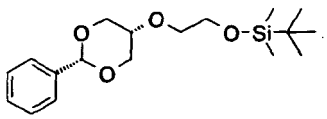


Step A

tert-Butyldimethyl-[2-(2-phenyl-[1,3]dioxan-5-yloxy)ethoxy]silane

[0893]

[Formula 281]



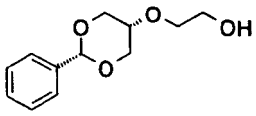
[0894] Sodium hydride (133 mg, 3.32 mmol) was added to 5 mL of a solution of cis-1,3-O-benzylideneglycerol (300 mg, 1.66 mmol) in DMF, and the mixture was stirred at room temperature for two hours. (2-bromoethoxy)-tert-butyldimethylsilane (534 μl, 3.32 mmol) was added to the mixture which was then stirred at room temperature for two hours. Aqueous saturated ammonium chloride was added to the mixture, followed by extraction with ethyl acetate. The extract was washed with saturated saline and then dried over anhydrous sodium sulfate, and the solvent was evaporated under reduced pressure to obtain a crude product, tert-butyldimethyl-[2-(2-phenyl-[1,3]dioxan-5-yloxy)ethoxy]silane (343 mg) as a colorless oil.

Step B

2-(2-Phenyl-[1,3]dioxan-5-yloxy)ethanol

[0895]

[Formula 282]



[0896] A solution of TBAF in 1 M-THF (1 mL, 1.00 mmol) was added to 5 mL of a solution of crude tert-butyldimethyl-[2-(2-phenyl-[1,3]dioxan-5-yloxy)ethoxy]silane (343 mg, 1.01 mmol) obtained in Step A in THF, and the mixture was stirred at room temperature for 16 hours. Aqueous saturated ammonium chloride was added to the mixture, followed by extraction with ethyl acetate. The extract was washed with saturated saline and then dried over anhydrous sodium sulfate, and the solvent was evaporated under reduced pressure. The resulting residue was purified by silica gel column chromatography (methylene chloride : methanol = 50 : 1) to obtain 2-(2-phenyl-[1,3]dioxan-5-yloxy)ethanol (39 mg, yield: 17%) as a colorless oil.

[0897] ^{1}H-NMR($CDCl_3$) δ: 3.33 (1H, t, J=1.5Hz), 3.67 (2H, J=4.0Hz), 3.78 (2H, t, J=4.0Hz), 4.06 (2H, dd, J=1.5, 12.7Hz), 4.35 (2H, dd, J=1.5, 12.7Hz), 5.57 (1H, s), 7.34-7.37 (3H, m), 7.48-7.52 (2H, m)
ESI(LC-MS positive mode)m/z 225 (M+H).

Step C

2-(2-Hydroxy-1-hydroxymethylethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0898] The title compound was synthesized by a method similar to that of Example 4-45 using 2-(2-phenyl-[1,3]dioxan-5-yloxy)-ethanol obtained in Step B instead of hexaethylene glycol monobenzyl ether.

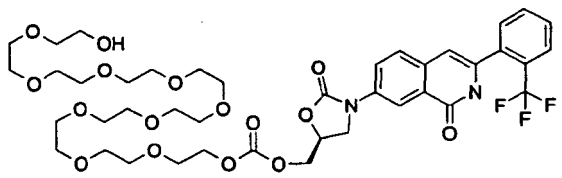
[0899] ^{1}H-NMR ($CDCl_3$) δ: 3.49 (1H, dt, J=9.6, 4.8Hz), 3.61-3.84 (6H, m), 4.06-4.34 (4H, m), 4.42 (1H, dd, J=4.6, 11.9Hz), 4.51 (1H, dd, J=4.3, 11.9Hz), 4.92-5.01 (1H, m), 6.52 (1H, s), 7.52-7.69 (4H, m), 7.79 (1H, m), 7.92 (1H, d, J=2.6Hz), 8.50 (1H, dd, J=2.6, 8.9Hz), 9.19 (1H, brs)
ESI (LC-MS positive mode) m/z 567 (M+H).

[Example 4-48]

2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0900]

[Formula 283]

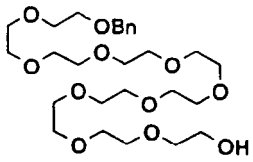


Step A

Decaethylene glycol monobenzyl ether

[0901]

[Formula 284]



[0902] Sodium hydride (35 mg, 0.872 mmol) and benzyl bromide (52 μl, 0.436 mmol) were added to 5 mL of a solution of commericially available decaethylene glycol (200 mg, 0.436 mmol) in THF, and the mixture was stirred at room temperature for 16 hours. Aqueous saturated ammonium chloride was added to the mixture, followed by extraction with ethyl acetate. The extract was washed with saturated saline and then dried over anhydrous sodium sulfate, and the solvent was evaporated under reduced pressure to obtain 168mg of crude decaethylene glycol monobenzyl ether as a colorless oil.

Step B

2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0903] The title compound was synthesized by a method similar to that of Example 4-45 using decaethylene glycol monobenzyl ether instead of hexaethylene glycol monobenzyl ether.

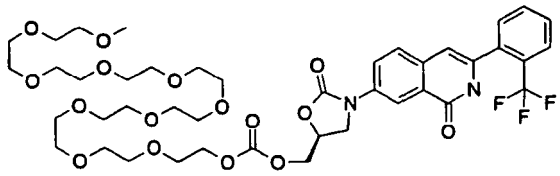
[0904] ^{1}H-NMR ($CDCl_3$) δ: 3.45-3.47 (40H, m), 4.07 (1H, t, J=9.3Hz), 4.28-4.33 (1H, m), 4.41 (1H, dd, J=4.6, 12.0Hz), 4.47 (1H, dd, J=4.4, 12.0Hz), 4.92-5.00 (1H, m), 6.55 (1H, s), 7.55-7.70 (4H, m), 7.82 (1H, d, J=7.8Hz), 7.96 (1H, d, J=2.0Hz), 8.57 (1H, dd, J=2.0, 8.7Hz)
ESI (LC-MS positive mode) m/z 889 (M+H)

[Example 4-49]

2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0905]

[Formula 285]



[0906] The title compound was synthesized by a method similar to that of Example 4-45 using decaethylene glycol monomethyl ether instead of hexaethylene glycol monobenzyl ether.

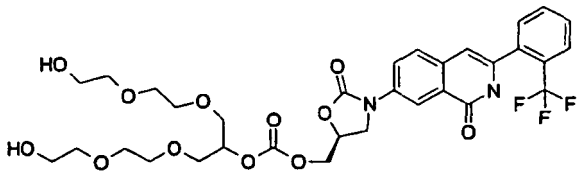
[0907] ^{1}H-NMR ($CDCl_3$) δ: 3.37 (3H, s), 3.48-3.74 (40H, m), 4.06 (1H, dd, J=6.6, 9.2Hz), 4.24-4.34 (1H, m), 4.41 (1H, dd, J=4.5, 12.0Hz), 4.48 (1H, dd, J=4.3, 12.0Hz), 4.92-5.01 (1H, m), 6.53 (1H, s), 7.54-7.71 (4H, m), 7.82 (1H, d, J=7.3Hz), 7.95 (1H, d, J=2.5Hz), 8.57 (1H, dd, J=2.5, 8.9Hz)
ESI (LC-MS positive mode) m/z 903 (M+H).

[Example 4-50]

2-[2-(2-Hydroxyethoxy)ethoxy]-1-[2-(2-hydroxyethoxy)ethoxymethyl]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0908]

[Formula 286]

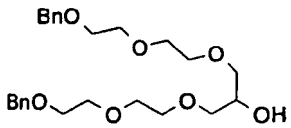


Step A

2-[2-(2-Benzyloxyethoxy)ethoxy]-1-[2-(2-benzyloxyethoxy)ethoxymethyl]ethanol

[0909]

[Formula 287]



[0910] A solution of n-butyl lithium in THF (1.6 N, 1.59 mL, 2.55 mmol) was added to 10 mL of a solution of diethylene glycol monobenzyl ether (500 mg, 2.55 mmol) in THF at -78°C, and the mixture was stirred for 15 minutes. Then, DL-epichlorohydrin (0.1 mL, 1.28 mmol) was added thereto. The mixture was stirred at room temperature for one hour and under reflux for one hour. Next, the THF solvent was evaporated under reduced pressure, and the residue was stirred at 100°C without a solvent to complete the reaction. Aqueous saturated ammonium chloride was added to the residue, followed by extraction with ethyl acetate. The extract was washed with saturated saline and then dried over anhydrous magnesium sulfate, and the solvent was evaporated under reduced pressure. The resulting residue was purified by preparative liquid chromatography (water : acetonitrile = 1 : 1, 0.05% TFA) to obtain 2-[2-(2-benzyloxyethoxy)ethoxy]-1-[2-(2-benzyloxyethoxy)ethoxymethyl]ethanol (129 mg, yield: 23%) as a colorless oil.

Step B

2-[2-(2-Hydroxyethoxy)ethoxy]-1-[2-(2-hydroxyethoxy)ethoxymethyl]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0911] The title compound was synthesized by a method similar to that of Example 4-45 using 2-[2-(2-benzyloxyethoxy)ethoxy]-1-[2-(2-benzyloxyethoxy)ethoxymethyl]ethanol obtained in Step A instead of hexaethylene glycol monobenzyl ether.

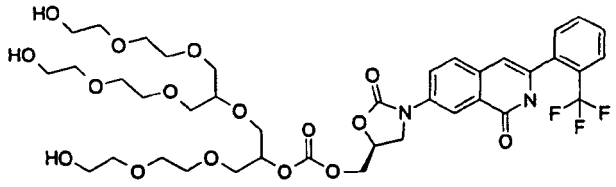
[0912] ^{1}H-NMR (DMSO-d_6) δ: 3.33-3.60 (20H, m), 3.90-4.01 (1H, m), 4.18-4.63 (5H, m), 4.81-4.93 (1H, m), 6.48 (1H, s), 7.57-7.90 (5H, m), 8.05 (1H, dd, J=8.7, 2.5Hz), 8.22 (1H, d, J=2.5Hz), 11.61 (1H, s)
ESI (LC-MS positive mode) m/z 699 (M+H).

[Example 4-51]

2-[2-(2-Hydroxyethoxy)ethoxy]-1-{2-[2-(2-hydroxyethoxy)ethoxy]-1-[2-(2-hydroxyethoxy)ethoxymethyl]ethoxymethyl} ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0913] Another name: 1-[2-(2-hydroxyethoxy)ethoxy]-3-{1,3-bis[2-(2-hydroxyethoxy)ethoxy]prop-2-yloxy}prop-2-yl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[Formula 288]

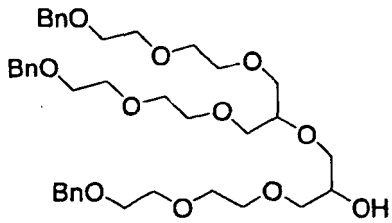


Step A

1-[2-(2-Benzyloxyethoxy)ethoxy]-3-{1,3-bis[2-(2-benzyloxyethoxy)ethoxy]prop-2-yloxy}propan-2-ol

[0914]

[Formula 289]



[0915] The title compound (52 mg, 9%) as a colorless oil was obtained as a by-product of Step A of Example 4-50.

Step B

1-[2-(2-Hydroxyethoxy)ethoxy]-3-{1,3-bis[2-(2-hydroxyethoxy)ethoxy]prop-2-yloxy}prop-2-yl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0916] The title compound was synthesized by a method similar to that of Example 4-45 using the compound obtained in Step A instead of hexaethylene glycol monobenzyl ether.

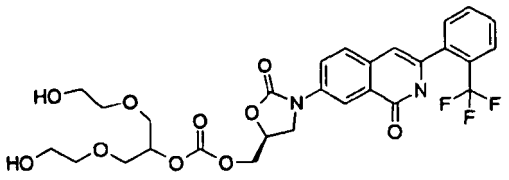
[0917] ^{1}H-NMR (DMSO-d_6) δ: 3.32-3.73 (35H, m), 3.90-4.00 (1H, m), 4.12-4.65 (4H, m), 4.77-4.87 (1H, m), 4.94-5.12 (1H, m), 6.47 (1H, s), 7.58-7.89 (5H, m), 8.00-8.10 (1H, m), 8.18-8.25 (1H, m)
ESI (LC-MS positive mode) m/z 861 (M+H)

[Example 4-52]

2-(2-Hydroxyethoxy)-1-(2-hydroxyethoxymethyl)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0918]

[Formula 290]



[0919] The title compound was synthesized by a method similar to that of Example 4-50 using 2-(2-benzyloxyethoxy)-

1-(2-benzyloxyethoxymethyl)ethanol instead of 2-[2-(2-benzyloxyethoxy)ethoxy]-1-[2-(2-benzyloxyethoxy)ethoxymethyl]ethanol.

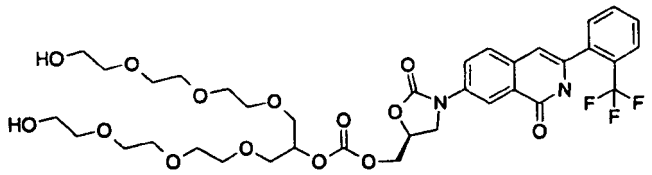
[0920] ^{1}H-NMR (DMSO-d_6) δ: 3.30-3.64 (12H, m), 3.92-4.01 (1H, m), 4.22-4.68 (5H, m), 4.81-4.92 (1H, m), 4.95-5.06 (1H, m), 6.48 (1H, s), 7.58-7.90 (5H, m), 8.05 (1H, dd, J=8.7, 2.4Hz), 8.22 (1H, d, J=2.4Hz), 11.62 (1H, s).
ESI (LC-MS positive mode) m/z 611 (M+H).

[Example 4-53]

2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}-1-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxymethyl}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0921]

[Formula 291]



[0922] The title compound was synthesized by a method similar to that of Example 4-50 using 2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}-1-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxymethyl}ethanol instead of 2-[2-(2-benzyloxyethoxy)ethoxy]-1-[2-(2-benzyloxyethoxy)ethoxymethyl]ethanol.

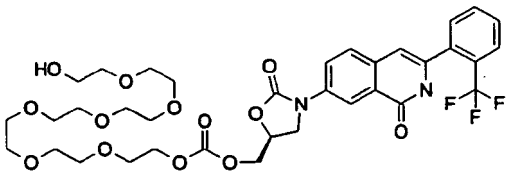
[0923] ^{1}H-NMR (DMSO-d_6) δ: 3.30-3.59 (28H, m), 3.90-4.02 (1H, m), 4.18-4.71 (5H, m), 4.81-4.92 (1H, m), 4.95-5.06 (1H, m), 6.47 (1H, s), 7.58-7.89 (5H, m), 8.05 (1H, dd, J=8.7, 2.4Hz), 8.21 (1H, d, J=2.4Hz).
ESI (LC-MS positive mode) m/z 787 (M+H).

[Example 4-54]

2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0924]

[Formula 292]



[0925] The title compound was synthesized by a method similar to that of Example 4-45 using heptaethylene glycol monobenzyl ether instead of hexaethylene glycol monobenzyl ether. However, heptaethylene glycol monobenzyl ether was synthesized by a method similar to that of Step A of Example 4-48 using heptaethylene glycol instead of decaethylene glycol.

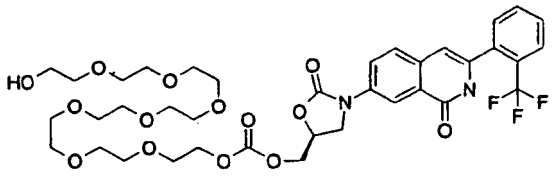
[0926] ^{1}H-NMR ($CDCl_3$) δ: 3.57-3.73 (28H, m), 4.04-4.12 (1H, m), 4.25-4.34 (1H, m), 4.38-4.51 (2H, m), 4.93-5.01 (1H, m), 7.57-7.69 (4H, m), 7.82 (1H, d, J=7.1Hz), 7.95 (1H, s), 8.59 (1H, d, J=8.9Hz)
ESI (LC-MS positive mode) m/z 757 (M+H)

[Example 4-55]

2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0927]

[Formula 293]



[0928] The title compound was synthesized by a method similar to that of Example 4-45 using octaethylene glycol monobenzyl ether instead of hexaethylene glycol monobenzyl ether. However, octaethylene glycol monobenzyl ether was synthesized by a method similar to that of Step A of Example 4-48 using octaethylene glycol instead of decaethylene glycol.

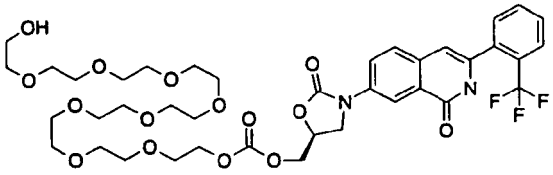
[0929] ^{1}H-NMR ($CDCl_3$) δ: 3.58-3.81 (32H, m), 4.07 (1H, dd, J=6.6, 9.1Hz), 4.25-4.34 (1H, m), 4.41 (1H, dd, J=4.6, 11.9Hz), 4.49 (1H, dd, J=4.4, 11.9Hz), 4.94-5.02 (1H, m), 6.57 (1H, s), 7.56-7.72 (4H, m), 7.83 (1H, d, J=7.4Hz), 7.95 (1H, d, J=2.3Hz), 8.58 (1H, dd, J=2.3, 8.9Hz)
ESI (LC-MS positive mode) m/z 801 (M+H)

[Example 4-56]

2-[2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester

[0930]

[Formula 294]



[0931] The title compound was synthesized by a method similar to that of Example 4-45 using nonaethylene glycol monobenzyl ether instead of hexaethylene glycol monobenzyl ether. However, nonaethylene glycol monobenzyl ether was synthesized by a method similar to that of Step A of Example 4-48 using nonaethylene glycol instead of decaethylene glycol.

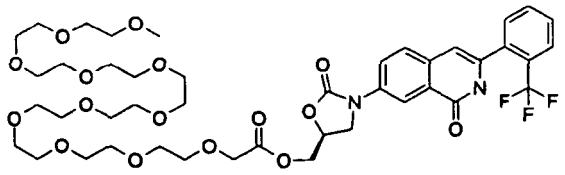
[0932] ^{1}H-NMR ($CDCl_3$) δ: 3.59-3.72 (36H, m), 4.07 (1H, dd, J=6.4, 8.9Hz), 4.25-4.34 (1H, m), 4.41 (1H, dd, J=4.6, 12.0Hz), 4.48 (1H, dd, J=3.8, 12.0Hz), 4.94-5.02 (1H, m), 6.55 (1H, s), 7.55-7.71 (4H, m), 7.82 (1H, d, J=7.6Hz), 7.95 (1H, s), 8.59 (1H, dd, J=2.3, 8.7Hz), 8.89 (1H, brs)
ESI (LC-MS positive mode) m/z 845 (M+H)

[Example 4-57]

(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]-oxazolidin-5-ylmethyl (2-{2-[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)acetate

[0933]

[Formula 295]



[0934] The title compound was synthesized by a condensation method similar to that of Step A of Example 3-1 using (2-{2-[2-(2-{2-[2-(2-{2-[2-(2-methoxy-ethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)ethoxy]-ethoxy}ethoxy)acetic acid instead of Boc-Sar-OH and 7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-13 instead of 7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one obtained in Step B of Example 1-14. However, (2-{2-[2-(2-{2-[2-(2-{2-[2-(2-methoxy-ethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)ethoxy]-ethoxy}ethoxy)acetic acid was synthesized by a method similar to that of Step A of Example 4-39 using decaethylene glycol monomethyl ether instead of pentaethylene glycol monobenzyl ether.

[0935] ^{1}H-NMR($CDCl_3$) δ: 3.37 (3H, s), 3.53-3.73 (40H, m), 4.02 (1H, dd, J=6.3, 9.2Hz), 4.18-4.34 (3H, m), 4.42 (1H, dd, J=4.8, 12.2Hz), 4.51 (1H, dd, J=3.7, 12.2Hz), 4.95-5.04 (1 m), 6.52 (1H, s), 7.58-7.72 (4H, m), 7.82 (1H, d, J=8.1Hz), 7.95 (1H, d, J=2.3Hz), 8.53 (1H, dd, J=2.3, 8.9Hz), 9.28 (1H, brs)
FAB-MS (positive mode) m/z 939 (M+Na).

[Test example 1]

[Measurement of cell growth inhibitory activity]

[0936] Several representative examples of the compound group of the present invention were measured in terms of cell growth inhibitory activity.

[0937] Cancer cell growth inhibitory activity was measured using Cell Counting Kit-8 manufactured by Dojindo Laboratories. The human colon cancer cell line HCT116 obtained from American Type Culture Collection (Virginia, U.S.A) was inoculated in a 96-well culture plate at a concentration of 2,000 cells/well. Thereafter, a certain concentration of compound was added thereto, and the obtained mixture was then cultured at 37°C in 5% CO_2, 95% air for 4 days. On the 4th day of the culture, a Cell Counting Kit-8 solution was added to the culture product, and absorbance (measurement wavelength: 450 nm; reference wavelength: 615 nm) was measured in accordance with protocols included with the kit. Thereafter, 50% growth inhibitory concentration (IC50) was calculated.

[0938] The results are shown in Table 6.

[Table 6]

Compound No.	Cell growth inhibitory activity (HCT116) IC50 (μM)
9	0.53
11	0.45
15	0.11
14	0.30
35	0.96
36	0.31
29	0.091
32	0.53
33	0.29
27	0.021
8	0.20

[Test example 2]

[Measurement of antitumor effect]

[0939] A representative example of the compound group of the present invention was measured in terms of antitumor effect.

[0940] Such antitumor effect was examined, using a tumor-bearing mouse produced by transplanting the human colon cancer cell line HCT116 obtained from American Type Culture Collection (Virginia, U.S.A) into the inguinal subcutis of a BALB/c nude mouse purchased from Charles River Laboratories Japan, Inc. The purchased nude mouse was quarantined for 1 week. Thereafter, approximately 5 x 10^6 HCT116 cells were transplanted subcutaneously. When the size of a tumor thereof became 200 mm^3, the mouse was subjected to the present experiment.

[0941] Each compound was suspended in a solution to be administered, and 0.2 ml of the solution was orally administered. Such administration was carried out twice in total, that is, on the initiation date of administration and 7 days after the first administration. The antitumor effect was calculated as a tumor growth inhibition by comparing the agent-treated group with a control group in terms of tumor growth, on 14 days after the initiation date of administration.

[0942] Tumor growth inhibition (TGI) = (1 - the tumor growth amount of agent-treated group / the tumor growth amount of control group) x 100 (%)

The results are shown in Table 7.

[Table 7]

Compound No.	Antitumor effect	
	Dose (mg/kg)	TGI (%) obtained 14 days after administration
14	300	113

[Test example 3]

[Measurement of solubility]

[0943] Several representative examples of the compound group of the present invention were measured in terms of solubility.

[0944] Measurement was carried out by preparing a four-point calibration curve (4,000 μM, 1,000 μM, 250 μM, and 31.3 μM) according to the internal standard method. A sample solution (100% DMSO) was freeze-dried, and each solution was then added thereto. The obtained mixture was stirred for 2 hours. Thereafter, a solution in which the sample had been dissolved was filtrated, and the filtrate was then analyzed with an analyzer. As an analysis method, the filtrate was measured by HPLC (UPLC). As dissolving solutions, a saline solution or a 50 mM sodium citrate-HCl buffer (pH 4.0) solution were used. The results are shown in Table 8.

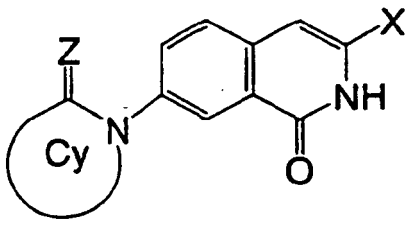
[Table 8]

Compound No.	Solubility
B20	>2mM*
B9	>2mM*
C6	>2mM
C39	>2mM
C45	>2mM
* solubility in 50 mM sodium citrate-HCl buffer (pH 4.0) solution	

Claims

1. A compound represented by the following formula (1):

[Formula 1]



(1)

wherein X represents an aryl group or heteroaryl group, wherein the aryl group or heteroaryl group may be substituted with one or more substituents selected from Group A;

wherein Group A consists of a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, an aryl group, a heteroaryl group, $-OR^{11}$, and $-NR^{12}R^{13}$), a C_{2-7} alkenyl group (wherein the C_{2-7} alkenyl group may be substituted with one or more substituents selected from a halogen atom, a C_{1-8} alkyl group, an aryl C_{1-6} alkyl group, an aryl group, and a heteroaryl group), a C_{2-7} alkynyl group (wherein the C_{2-7} alkynyl group may be substituted with one or more substituents selected from a halogen atom, a C_{1-8} alkyl group, an aryl C_{1-6} alkyl group, an aryl group, and a heteroaryl group), a halogen atom, a hydroxyl group, an aryl group, a heteroaryl group, a cyano group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C_{1-8} alkyl group, which may be substituted with $-OR^{11}$ or $-NR^{12}R^{13}$, an aryl group, an aryl C_{1-6} alkyl group, and a heteroaryl group), $-S(O)_{n1}R^{14}$ (wherein n1 represents an integer from 0 to 2), a C_{1-6} alkoxy group (wherein the alkoxy group may be substituted with one or more groups selected from an aryl group, a heteroaryl group, $-OR^{11}$, $-NR^{12}R^{13}$, and a halogen atom), a 4- to 7-membered heterocyclyl group (wherein the heterocyclyl group may be substituted with one or more substituents selected from a C_{1-8} alkyl group, an aryl group, an aryl C_{1-6} alkyl group, and a heteroaryl group), an aryloxy group, a heteroaryloxy group, and a C_{1-6} alkylenedioxy group;

wherein each of R^{11}, R^{12}, R^{13}, and R^{14} is independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-6} alkoxy group, an aryl C_{1-6} alkoxy group, an aryl group, and a heteroaryl group), an aryl group, and a heteroaryl group; or R^{12} and R^{13}, together with nitrogen to which they bind, may form a 4- to 7-membered heterocyclic ring containing at least one nitrogen atom;

Z represents O, S, or NRa, wherein Ra represents a hydrogen atom, a C_{1-8} alkyl group, an aryl C_{1-6} alkyl group, an aryl group, or a heteroaryl group;

Cy represents a 4- to 7-membered monocyclic heterocyclic ring or a 8- to 10-membered condensed heterocyclic ring, wherein the carbon atom(s) of the heterocyclic ring may be substituted with one or more substituents selected from Group Q1, and when the heterocyclic ring contains -NH-, the nitrogen atom may be substituted with a substituent selected from Group Q2;

wherein Group Q1 consists of a C_{1-8} alkyl group, which may be substituted with one or more substituents selected from Group B, a C_{2-7} alkenyl group, which may be substituted with one or more substituents selected from Group B, a hydroxyl group, a C_{1-6} alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, an amino group, a C_{1-6} alkylamino group, a di (C_{1-6} alkyl)amino group, an aryl group, and a heteroaryl group), a C_{1-6} alkylcarbonyl group, $-CONR^{21}R^{22}$, a carboxy group, a C_{1-6} alkoxycarbonyl group, which may be substituted with an aryl group, an aryloxy group, a heteroaryloxy group, an amino group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, a 4- to 7-membered heterocyclyl group (wherein the heterocyclyl group may be substituted with one or two substituents selected from a C_{1-8} alkyl group, an aryl group, an aryl C_{1-6} alkyl group, and a heteroaryl group), an oxo group, and a thioxo group;

wherein each of R^{21} and R^{22} is independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, an aryl group, an amino group, a C_{1-6} alkylamino group, and a di(C_{1-6} alkyl)amino group), an aryl group, and a heteroaryl group; or

R^{21} and R^{22}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclyl group containing at least one nitrogen atom (wherein the heterocyclyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-8} alkoxy group, and an aryl group), an aryl group, and a heteroaryl group) ;

wherein Group Q2 consists of a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more

substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, an amino group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, an aryl group, and a heteroaryl group), a C_{1-6} alkoxycarbonyl group, an aryl C_{1-6} alkoxycarbonyl group, an aryl group, and a heteroaryl group;

wherein Group B consists of a halogen atom, an aryl group, a heteroaryl group, an oxo group, a C_{1-6} alkylcarbonyl group, a C_{1-6} alkylaminocarbonyl group, a di(C_{1-6} alkyl)aminocarbonyl group, a C_{1-6} alkoxycarbonyl group, an azido group, $-OR^{31}$,$-NR^{32}R^{33}$, and $-S(O)_{n2}R^{39}$ (wherein n2 represents an integer from 0 to 2);

wherein R^{31} is selected from a hydrogen atom, $-PO(OR^{41})OR^{42}$, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, which may be substituted with a C_{1-6} alkoxy group, an aryl group, and $-NR^{34}R^{35}$), an aryl group, a heteroaryl group, a C_{1-6} alkylcarbonyl group, a C_{2-7} alkenylcarbonyl group, a C_{3-8} cycloalkylcarbonyl group (wherein the C_{1-6} alkylcarbonyl group, C_{2-7} alkenylcarbonyl group, and C_{3-8} cycloalkylcarbonyl group may be substituted with one or more substituents selected from a hydroxyl group, $-NR^{37}R^{38}$, an aryl group, which may be substituted with a hydroxyl group, a heteroaryl group, a mercapto group, a C_{1-6} alkylthio group, a guanidyl group, a carboxy group, a C_{1-6} alkoxycarbonyl group, a C_{1-6} alkylcarbonyloxy group, an aryl C_{1-6} alkoxy group, an aminocarbonyl group, a C_{1-6} alkylaminocarbonyl group, and a di(C_{1-6} alkyl)aminocarbonyl group (wherein the C_{1-6} alkylaminocarbonyl group and di(C_{1-6} alkyl)aminocarbonyl group may be substituted with one or more substituents selected from an amino group, a C_{1-6} alkylamino group, and a di(C_{1-6} alkyl)amino group), and $-(OCHR^{74}CH_2)_1-OR^{73}$ (wherein 1 represents an integer from 1 to 20)), an arylcarbonyl group, a heteroarylcarbonyl group, a 4- to 12-membered heterocyclyl carbonyl group (wherein the arylcarbonyl group, heteroarylcarbonyl group, and heterocyclyl carbonyl group may be substituted with one or more substituents selected from a hydroxyl group, a carboxy group, a C_{1-6} alkyl group, a C_{1-6} alkoxycarbonyl group, a C_{1-6} alkylcarbonyl group (wherein the C_{1-6} alkoxycarbonyl group and C_{1-6} alkylcarbonyl group may be substituted with one or more substituents selected from a hydroxyl group, $-NR^{84}R^{85}$, and a carboxy group)), a C_{1-6} alkoxycarbonyl group (wherein the C_{1-6} alkoxycarbonyl group may be substituted with one or more 4- to 12-membered heterocyclyl groups), $-CONR^{71}R^{72}$, $-CO(OCHR^{76}CH_2)_k-OR^{75}$ (wherein k represents an integer from 1 to 20), and $-S(O)_{n3}R^{81}$ (wherein n3 represents an integer of 1 or 2));

each of R^{32}, R^{33}, R^{34}, R^{35}, R^{37}, R^{38}, R^{71}, R^{72}, R^{84}, and R^{85} is independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, $-(OCH_2CH_2)_m-OH$ (wherein m represents an integer from 1 to 20), a C_{1-6} alkoxycarbonyl group, an aryl group, an amino group, a C_{1-6} alkylamino group, and a di(C_{1-6} alkyl)amino group), $-S(O)_{n4}R^{83}$ (wherein n4 represents an integer of 1 or 2), a C_{1-6} alkylcarbonyl group (wherein the C_{1-6} alkylcarbonyl group may be substituted with one or more substituents selected from an amino group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, an aminocarbonyl group, an aryl group, which may be substituted with a hydroxyl group, a heteroaryl group, a hydroxyl group, a mercapto group, a C_{1-6} alkylthio group, a guanidyl group, and a carboxy group), a C_{1-6} alkylaminocarbonyl group, a C_{1-6} alkoxycarbonyl group, a 4- to 7-membered heterocyclyl carbonyl group, an aryl group, and a heteroaryl group; or

R^{32} and R^{33}, R^{34} and R^{35}, R^{37} and R^{38}, and R^{84} and R^{85}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclyl group containing at least one nitrogen atom (wherein the heterocyclyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-8} alkoxy group, and an aryl group), a C_{1-8} alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-8} alkoxy group, and an aryl group), an aryl group, and a heteroaryl group);

each of R^{39} and R^{83} is independently selected from a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-6} alkoxy group, an aryl C_{1-6} alkoxy group, an aryl group, and a heteroaryl group), a C_{2-8} alkenyl group, a C_{3-6} cycloalkyl group, an aryl group, and a heteroaryl group;

each of R^{41} and R^{42} is independently selected from a hydrogen atom, an aryl C_{1-6} alkyl group, and a C_{1-8} alkyl group;

each of R^{73} and R^{75} is independently selected from a hydrogen atom, a C_{1-6} alkyl group, which may be substituted with one or more hydroxyl groups, and an aryl C_{1-6} alkyl group;

each occurrence of R^{74} and R^{76} is independently selected from a hydrogen atom, a C_{1-6} alkyl group, a C_{1-6} alkyl group, which is substituted with a hydroxyl group(s), and $-CH_2(OCH_2CH_2)_1-OR^{80}$ (wherein i represents an integer from 1 to 20);

R^{80} is selected from a hydrogen atom, an aryl C_{1-6} alkyl group, and a C_{1-6} alkyl group, which may be substituted with one or more hydroxyl groups; and

R^{81} represents a C_{1-6} alkyl group,

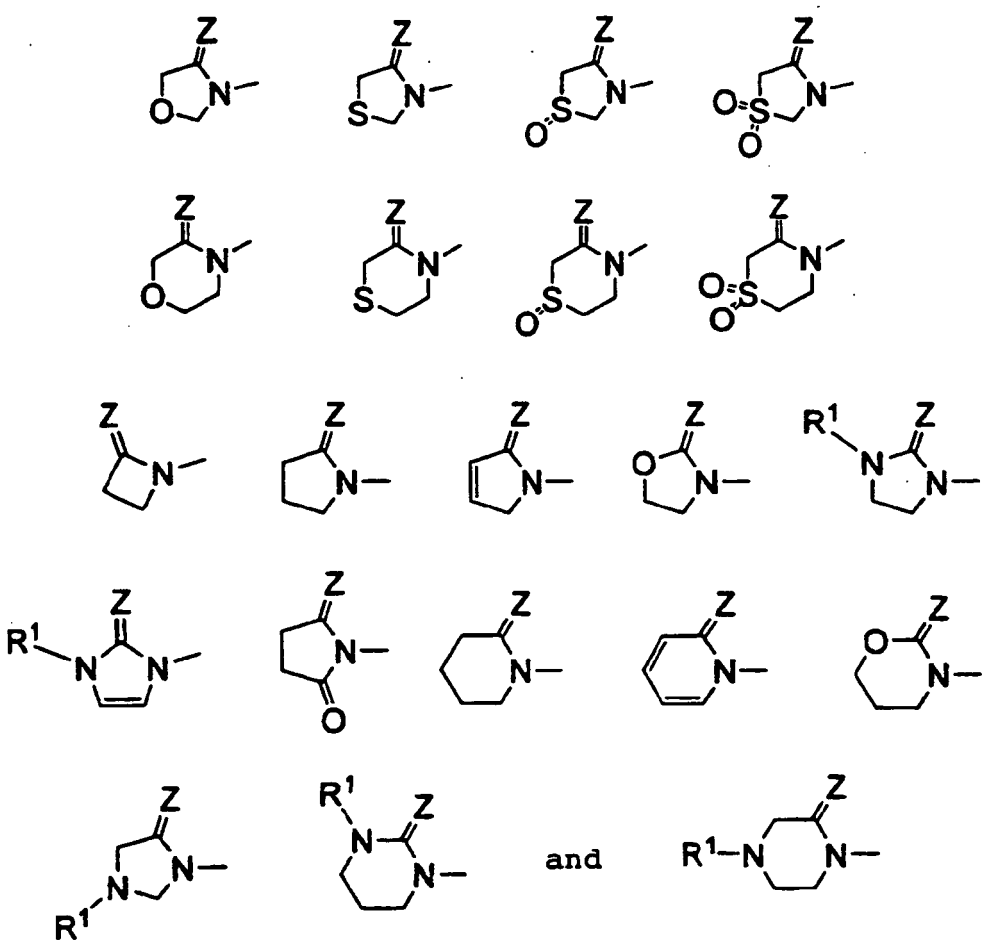
or a pharmaceutically acceptable salt thereof; wherein the term "C_{1-8} alkyl group" means a linear or branched alkyl group containing 1 to 8 carbon atoms, or a cyclic or partially cyclic alkyl group containing 3 to 8 carbon atoms; the term "C_{1-6} alkoxy group" means an alkyloxy group having a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms, as alkyl portions thereof; the term "haloC_{1-6} alkyl group" means an alkyl group substituted with one or more halogen atoms, which has, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms; the term "haloC_{1-6} alkoxy group" means an alkoxy group substituted with one or more halogen atoms, which has, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms; the term "C_{1-6} alkylamino group" means an alkylamino group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms; the term "di(C_{1-6} alkyl) amino group" means a dialkylamino group having, as two alkyl portions, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms, wherein the two alkyl portions may be either identical to or different from each other; the term "C_{1-6} alkylcarbonyl group" means an alkylcarbonyl group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms; the term "C_{1-6} alkylcarbonylamino group" means an alkylcarbonylamino group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms; the term "C_{1-6} alkylcarbonyloxy group" means an alkylcarbonyloxy group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms; the term "C_{1-6} alkoxycarbonyl group" means an alkoxycarbonyl group having, as alkoxy portions thereof, a linear or branched alkoxy group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkoxy group containing 3 to 6 carbon atoms; the term "C_{1-6} alkylaminocarbonyl group" means an alkylaminocarbonyl group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms; the term "di(C_{1-6} alkyl)aminocarbonyl group" means a dialkylaminocarbonyl group having, as two alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms, which may be either identical to or different from each other; the term "amino C_{1-6} alkoxycarbonyl group" means an aminoalkoxycarbonyl group having, as alkoxy portions thereof, a linear or branched alkoxy group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkoxy group containing 3 to 6 carbon atoms; the term "hydroxy C_{1-6} alkyl group" means a hydroxyalkyl group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms; the term "C_{1-6} alkylthio group" means an alkylthio group having, as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms; the term "aryl C_{1-6} alkyl group" means an aralkyl group, which has, as an aryl group thereof, the defined aromatic hydrocarbon group containing 6 to 10 carbon atoms, and as alkyl portions thereof, a linear or branched alkyl group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkyl group containing 3 to 6 carbon atoms; the term "aryl C_{1-6} alkoxy group" means an aralkyloxy group, which has, as an aryl group thereof, the defined aromatic hydrocarbon group containing 6 to 10 carbon atoms, and as alkoxy portions thereof, a linear or branched alkoxy group containing 1 to 6 carbon atoms, and a cyclic or partially cyclic alkoxy group containing 3 to 6 carbon atoms.

2. The compound or pharmaceutically acceptable salt thereof according to claim 1,
wherein the carbon atom(s) of Cy are substituted with one or two groups selected from a hydroxyl group, and the groups $C(=O)\text{-}OR^{50}$, $\text{-}CR^{51}R^{52}\text{-}OR^{53}$, $\text{-}CR^{z}R^{q}CR^{51}R^{52}\text{-}OR^{53}$, $\text{-}C(=O)\text{-}NR^{54}R^{55}$, and $\text{-}CR^{51}R^{52}\text{-}NR^{56}R^{57}$;
R^{50} represents a hydrogen atom or a C_{1-6} alkyl group (wherein the alkyl group may be substituted with a hydroxyl group or a C_{1-6} alkoxy group);
each of R^{51} and R^{52} is independently selected from a hydrogen atom, a C_{1-3} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group and an amino group), and a C_{2-3} alkenyl group;
each of R^{z} and R^{q} is independently selected from a hydrogen atom and a C_{1-3} alkyl group;
R^{53} represents a hydrogen atom, a C_{1-6} alkyl group (wherein the alkyl group may be substituted with 1 to 3 substituents selected from an aryl group, a hydroxyl group, a C_{1-6} alkoxy group, a C_{1-6} alkoxy C_{1-6} alkoxy group, and $\text{-}NR^{x}R^{y}$), a C_{1-6} alkylcarbonyl group (wherein the alkylcarbonyl group may be substituted with 1 to 3 substituents selected from a hydroxyl group, a C_{1-3} alkoxy group, an aryl group, $\text{-}NR^{61}R^{62}$, a carboxy group, $\text{-}CONR^{63}R^{64}$, and $\text{-}(OCHR^{74}CH_2)_1\text{-}OR^{73}$ (wherein R^{73}, R^{74}, and 1 are the same as those defined in claim 1)), an arylcarbonyl group or a 4- to 7-membered heterocyclyl carbonyl group (wherein the arylcarbonyl group and heterocyclyl carbonyl group may be substituted with one or more substituents selected from a carboxy group, a C_{1-6} alkoxycarbonyl group, and a C_{1-6} alkylcarbonyl group (wherein the C_{1-6} alkoxycarbonyl group and C_{1-6} alkylcarbonyl group may be substituted

with one or more substituents selected from -$NR^{61}R^{62}$, a carboxy group, and a hydroxyl group)), or -CO$(OCHR^{76}CH_2)_k$-OR^{75} (wherein R^{75}, R^{76}, and k are the same as those defined in claim 1),
each of R^{54} and R^{55} is independently selected from a hydrogen atom and a C_{1-6} alkyl group (wherein the alkyl group may be substituted with a hydroxyl group or an amino group); or R^{54} and R^{55}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclic ring (wherein the heterocyclic ring may be substituted with 1 to 3 substituents selected from a hydroxyl group and a hydroxy C_{1-6} alkyl group);
each of R^{56} and R^{57} is independently selected from a hydrogen atom, a C_{1-6} alkyl group (wherein the alkyl group may be substituted with a hydroxyl group or an amino group), and a C_{1-6} alkylsulfonyl group (wherein the alkylsulfonyl group may be substituted with a hydroxyl group or an amino group); or R^{56} and R^{57}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclic ring (wherein the heterocyclic ring may be substituted with 1 to 3 substituents selected from a hydroxyl group and a hydroxy C_{1-6} alkyl group);
each of R^{61} and R^{62} is independently selected from a hydrogen atom, a C_{1-6} alkyl group, and a C_{1-6} alkylcarbonyl group (wherein the alkylcarbonyl group may be substituted with 1 to 3 substituents selected from a hydroxyl group, a C_{1-3} alkoxy group, an aryl group, an amino group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, and a carboxy group); or R^{61} and R^{62}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclic ring;
each of R^x and R^y is independently selected from a hydrogen atom and a C_{1-6} alkyl group, and
each of R^{63} and R^{64} is independently selected from a hydrogen atom and a C_{1-6} alkyl group (wherein the alkyl group may be substituted with a hydroxyl group or an amino group); or R^x and R^y, or R^{63} and R^{64}, together with a nitrogen atom to which they bind, may form a 4- to 7-membered heterocyclic ring.

3. The compound or pharmaceutically acceptable salt thereof according to claim 1 or 2, wherein Cy represents a heterocyclic ring selected from the following group:

[Formula 2]

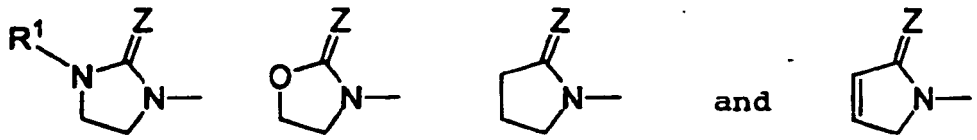


wherein the carbon atom(s) of the heterocyclic ring may be substituted with one or more substituents selected from Group Q1; and

R^1 represents a hydrogen atom, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom, a hydroxyl group, a C_{1-6} alkoxy group, an amino group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, an aryl group, and a heteroaryl group), a C_{1-6} alkoxycarbonyl group, an aryl C_{1-6} alkoxycarbonyl group, an aryl group, or a heteroaryl group.

4. The compound or pharmaceutically acceptable salt thereof according to claim 3, wherein Cy represents a heterocyclic ring selected from the following group:

[Formula 3]



5. The compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 4, wherein X represents an aryl group, wherein the aryl group may be substituted with one or more substituents selected from Group A1;

wherein Group A1 consists of a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a halogen atom and $-NR^{12}R^{13}$), a halogen atom, a hydroxyl group, an aryl group, an amino group (wherein the nitrogen atom of the amino group may be substituted with one or two substituents selected from a C_{1-8} alkyl group and an aryl group), $-SR^{14}$, a C_{1-6} alkoxy group (wherein the alkoxy group may be substituted with one or more substituents selected from $-OR^{11}$ and a halogen atom), and a 4-to 7-membered heterocyclyl group (wherein the heterocyclyl group may be substituted with one or two substituents selected from C_{1-8} alkyl groups);

wherein each of R^{11}, R^{12}, R^{13}, and R^{14} is independently selected from a hydrogen atom, a C_{1-8} alkyl group, and an aryl group; or R^{12} and R^{13}, together with nitrogen to which they bind, may form a 4- to 7-membered heterocyclic ring containing at least one nitrogen atom.

6. The compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 5, wherein Z represents O.

7. The compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 6, wherein the substituent(s) on the ring carbon atom(s) of Cy are selected from a hydroxyl group, a C_{1-8} alkyl group (wherein the alkyl group may be substituted with one or more substituents selected from a hydroxyl group, a C_{1-6} alkylamino group, a di(C_{1-6} alkyl)amino group, a 4- to 7-membered heterocyclyl group containing at least one nitrogen atom (wherein the heterocyclyl group may be substituted with a hydroxyl group, or a C_{1-6} alkyl group, which may be substituted with a hydroxyl group), a C_{1-6} alkylcarbonyloxy group (wherein the C_{1-6} alkylcarbonyloxy group may be substituted with one or two substituents selected from a hydroxyl group and $-(OCH_2CH_2)_1-OR^{73}$ (wherein R^{73} and 1 are the same as those defined in claim 1)), $-OCO(OCHR^{76}CH_2)_k-OR^{75}$ (wherein R^{75}, R^{76}, and k are the same as those defined in claim 1)), and $-CONR^{91}R^{92}$;

wherein each of R^{91} and R^{92} is selected from a hydrogen atom and a C_{1-6} alkyl group; or R^{91} and R^{92}, together with nitrogen to which they bind, may form a 4- to 7-membered heterocyclic ring containing at least one nitrogen atom (wherein the heterocyclic ring may be substituted with a hydroxyl group).

8. The compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 7, wherein the substituent(s) on the ring carbon atom(s) of Cy are selected from a hydroxyl group, a hydroxymethyl group, and a 1-hydroxy-1-methylethyl group.

9. The compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 7, wherein the substituent(s) on the ring carbon atom(s) of Cy are $-CH_2-OCOCH_2-(OCH_2CH_2)_1-OR^{73}$ (wherein R^{73} and l are the same as those defined in claim 1), a propionyloxymethyl group, which is substituted with one or two hydroxyl groups, or $-CH_2-OCO(OCHR^{76}CH_2)_k-OR^{75}$ (wherein R^{75}, R^{76}, and k are the same as those defined in claim 1).

10. The compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 7, wherein a substituent

on the ring nitrogen atom of Cy is selected from C_{1-8} alkyl groups (wherein the alkyl group may be substituted with a hydroxyl group).

11. The compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 10, wherein X represents an aryl group, wherein the aryl group may be substituted with one or more substituents selected from a halogen atom, a C_{1-6} alkyl group, a halo C_{1-6} alkyl group, a C_{1-6} alkoxy group, a halo C_{1-6} alkoxy group, an aryl group, and a 4-to 7-membered heterocyclyl group.

12. The compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 11, wherein X represents an aryl group, wherein the aryl group may be substituted with an ethyl group, a trifluoromethyl group, a trifluoromethoxy group, an ethoxy group, a propoxy group, a phenyl group, or a morpholinyl group.

13. The compound or pharmaceutically acceptable salt thereof according to claim 1, which compound is selected from:

7-(2-Oxoazetidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(2-Oxopiperidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(2-Oxo-2H-pyridin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-4-Hydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((S)-4-Hydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(4-Methoxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((S)-2-Hydroxymethyl-5-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(4-Benzyloxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[3-(2-Hydroxyethyl)-2-oxoimidazolidin-1-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-4-Hydroxymethyl-2-oxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-4-ylmethyl benzoate,
7-(5-Chloromethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((S)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(2-Oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-2-Hydroxymethyl-5-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(2-Oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(3-Methyl-2-oxo-2,3-dihydroimidazol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methoxyphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-o-tolyl-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethoxyphenyl)-2H-isoquinolin-1-one,
3-Biphenyl-2-yl-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
3-(2-Ethylphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
3-(2,6-Dimethoxyphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
3-(2-Fluorophenyl)-7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
7-((S)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethoxyphenyl)-2H-isoquinolin-1-one,
7-((S)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-morpholin-4-ylphenyl)-2H-isoquinolin-1-one,
7-[5-(2-Hydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(5-Azidomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(5-Aminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
N-{2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}acetamide,
7-(5-Morpholin-4-ylmethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[5-(4-Hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-4-Benzyloxymethyl-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-4-Hydroxymethyl-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
3-(2-Ethylphenyl)-7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
7-[(S)-5-(2-Hydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(S)-5-((R)-1,2-Dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
3-{2-[2-(2-Benzyloxyethoxy)ethoxy]phenyl}-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
3-{2-[2-(2-Hydroxyethoxy)ethoxy]phenyl}-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
3-{2-[2-(2-Hydroxyethoxy)ethoxy]phenyl}-7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
3-(2,6-Bistrifluoromethylphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,

7-[5-(2-Hydroxy-1-hydroxymethylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
Ethyl 2-oxo-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]pyrrolidine-3-carboxylate,
7-(3-Hydroxymethyl-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-isobutylphenyl)-2H-isoquinolin-1-one,
3-(2-Allylphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
7-(2-Oxo-[1,3]oxazinan-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(4-Hydroxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
1-[1-Oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]pyrrolidine-2,5-dione,
Ethyl 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylate,
Methyl 2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylate,
7-[5-(1-Hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid,
2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid
2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid methylamide,
2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid dimethylamide,
2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid (2-hydroxyethyl)amide,
7-[5-(Morpholine-4-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[5-(4-Hydroxypiperidine-1-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(S)-5-(1-Hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(R)-5-(1-Hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid amide,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidine-5-carboxylic acid amide,
7-[(S)-5-(4-Hydroxypiperidine-1-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(R)-5-(4-Hydroxypiperidine-1-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(R)-5-(2-Methoxyethoxymethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Methoxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-{(R)-5-[2-(2-Methoxyethoxy)ethoxymethyl]-2-oxooxazolidin-3-yl}-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(R)-5-(2-Morpholin-4-ylethoxymethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Benzyloxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((S)-2-Oxo-5-piperidin-1-ylmethyloxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(S)-5-((S)-2-Hydroxymethylpyrrolidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(S)-5-((S)-3-Hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(S)-5-((R)-3-Hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(S)-5-((R)-2-Hydroxymethylpyrrolidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(S)-5-(4-Hydroxymethylpiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(S)-5-(4-Methoxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((S)-5-Morpholin-4-ylmethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-l-one,
7-[(S)-(4-Hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
N-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}methanesulfonamide,
Ethanesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide,

Propane-1-sulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide,
Propane-2-sulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide,
Pentane-1-sulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide,
N-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}benzenesulfonamide,
Ethenesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide,
2-Hydroxyethanesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}}amide,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-propylphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-methylallyl)phenyl]-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-propoxyphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-methoxyethoxy)phenyl]-2H-isoquinolin-1-one,
3-(2-Ethoxyphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
3-[2-(2,3-Dihydroxy-2-methylpropyl)phenyl]-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-hydroxypropyl)phenyl]-2H-isoquinolin-1-one,
3-(1-Ethyl-1H-benzimidazol-2-yl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methylsulfanylphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methanesulfonylphenyl)-2H-isoquinolin-1-one,
7-(4-Hydroxy-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(S)-5-((S)-1,2-Dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
Cyclopropanesulfonic acid {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl}amide,
7-(4-Hydroxymethyl-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((S)-3-Hydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
2-Oxo-1-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]pyrrolidine-3-carboxylic acid dimethylamide,
7-(3-Morpholin-4-ylmethyl-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(2-Oxo-3-piperidin-1-ylmethylpyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[3-(4-Hydroxypiperidin-1-ylmethyl)-2-oxopyrrolidin-1-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((3R,4R)-3,4-Dihydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(5-Hydroxymethyl)-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-4-Benzyloxymethyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-4-Hydroxymethyl-2-oxoimidazolidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(3-Methyl-2-oxotetrahydropyrimidin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
Benzyl 3-oxo-4-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]piperazine-1-carboxylate,
7-(2-Oxopiperazin-1-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(R)-5-((S)-1,2-Dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(R)-5-((R)-1,2-Dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-(5,5-Bishydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[3-(2-Hydroxyethyl)-5-oxoimidazolidin-1-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(3-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-naphthalen-1-yl-2H-isoquinolin-1-one,
3-Furan-2-yl-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-thiophen-2-yl-2H-isoquinolin-1-one,
7-((S)-5-Dimethylaminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-[(S)-5-(1-Hydroxy-1-vinylallyl)-2-oxooxazolidin-3-yl]-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(4-trifluoromethylphenyl)-2H-isoquinolin-1-one,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(3-methylthiophen-2-yl)-2H-isoquinolin-1-one,
7-(3-Oxomorpholin-4-yl)-3-(2-trifluoromethylphenyl)-2H-isoquinolin-1-one,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl methylaminoacetate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl aminoacetate,

(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-propionate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-pyrrolidine-2-carboxylate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-aminobutanoate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-aminopentanoate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-4-methyl-pentanoate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2S,3S)-2-amino-3-methylpentanoate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-3-methyl-butanoate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-hexanoate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl dimethylaminoacetate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-aminopropionate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-3-phenylpropionate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 4-aminobutanoate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-methylaminopropionate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-dimethylaminopropionate,
3-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} propionic acid,
2-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} benzoic acid,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 2-aminoethylsuccinamate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl methylaminoacetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl dimethylaminoacetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-3-methylbutyrate,
(R)-2-Oxo-3-[1-oxo-3-trifluoromethylphenyl]-1,2-dihydroisoquinolin-7-yl]-oxazolidin-5-ylmethyl 2-amino-2-methylpropionate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 2-methyl-2-(methylamino)propionate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 1-amino-cyclopentanecarboxylate,
Dibenzyl phosphoate (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]-oxazolidin-5-ylmethyl ester,
3-{(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} propionic acid,
2-{(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} benzoic acid,
3-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} butanoic acid,
(Z)-3-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}acrylic acid,
2-(1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylethoxycarbonyl}propionic acid,

2-(1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylethoxycarbonyl}benzoic acid,
1-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]-oxazolidin-5-ylmethyl} (S)-2-aminosuccinate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-amino-3-hydroxypropionate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2S,3R)-2-amino-3-hydroxybutanoate,
(Z)-3-{(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}acrylic acid,
3-{(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} butanoic acid,
2-(1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylethoxycarbonyl}butanoic acid,
3-{(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}-(S)-2-hydroxypropionic acid,
3-{(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} ethanoic acid,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (R)-2,3-dihydroxypropionate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-hydroxy-2-hydroxymethyl-2-methylpropionate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 3-hydroxy-2,2-bishydroxymethylpropionate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-aminoacetyl)methylaminoacetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl 2-aminoacetylaminoacetate,
5-{(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl} (S)-2-[(S)-2-amino-3-(1H-indol-3-yl)-propionylamino]-pentanedioate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-hydroxyethoxy)ethyl]carbamate,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2,3-dihydroxypropyl)carbamate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2,3-dihydroxypropyl)carbamate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-hydroxy-1-hydroxymethylethyl)carbamate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [(2R,3S)-2,3,4-trihydroxybutyl]carbamate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [(2S,3R,4R,5R)-2,3,4,5,6-pentahydroxyhexyl]carbamate,
Ethyl {(R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonylamino}acetate,
Ethyl carbonate (R)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl nicotinate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl acetoxyacetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-methoxyethoxy)acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-methoxyethoxy)ethoxy]acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-methoxyethoxy)ethoxy]ethoxy}acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-{2-[2-(2-

methoxyethoxy)ethoxy]ethoxy}ethoxy)acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}-acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-hydroxyethoxy)ethoxy]acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}acetate,
2-[2-(2-Methoxy-1-methylethoxy)-1-methylethoxy]-1-methylethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-(2-Hydroxyethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-[2-(2-Hydroxyethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl carbonate 1,4,7,10-tetraoxacyclododec-2-ylmethyl ester,
2-(2-Hydroxy-1-hydroxymethylethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-[2-(2-Hydroxyethoxy)ethoxy]-1-[2-(2-hydroxyethoxy)ethoxymethyl]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-[2-(2-Hydroxyethoxy)ethoxy]-1-{2-[2-(2-hydroxyethoxy)ethoxy]-1-[2-(2-hydroxyethoxy)ethoxymethyl]ethoxymethyl}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-(2-Hydroxyethoxy)-1-(2-hydroxyethoxymethyl)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}-1-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxymethyl}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}-ethoxy)ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}-ethoxy)ethoxy]ethoxy}ethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-[2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]-ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]-ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-acetic acid (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl aminoacetate,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl)ethyl methylaminoacetate,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl dimethylaminoacetate,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl 4-aminobutanoate,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl

(S)-2-aminopropionate,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl (S)-2-amino-3-methylbutanoate,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl (S)-pyrrolidine-2-carboxylate,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl [(2-aminoacetyl)methylamino]acetate,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-yl}ethyl (S)-1-(2-aminoacetyl)pyrrolidine-2-carboxylate,
(E)-3-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}acrylic acid,
1-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl} (S)-2-aminopentanedionate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2S,3R,4S,5R)-3,4,5,6-tetrahydroxytetrahydropyrane-2-carboxylate,
(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy) acetic acid (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]acetic acid (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
{2-[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}acetic acid (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethoxy]acetic acid (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
{2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}acetic acid (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-[2-(2-Methoxyethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-(2-Methoxyethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
2-Methoxyethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy} ethoxy)acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]-ethoxy}ethoxy)-ethoxy]acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]-ethoxy}ethoxy)ethoxy]ethoxy}acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl (2-{2-[2-(2-

{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl [2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)ethoxy] acetate,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl {2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}-ethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy) ethoxy]-ethoxy}acetate,
2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy} ethoxy)ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester,and
2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy} ethoxy)ethoxy]ethyl carbonate (S)-2-oxo-3-[1-oxo-3-(2-trifluoromethylphenyl)-1,2-dihydroisoquinolin-7-yl]oxazolidin-5-ylmethyl ester.

14. A pharmaceutical composition, which comprises, as an active ingredient, the compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 13.

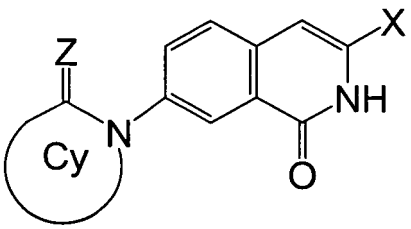
15. A therapeutic or preventive agent for use in the treatment of a malignant tumor, which comprises, as an active ingredient, the compound or pharmaceutically acceptable salt thereof according to any one of claims 1 to 13.

16. The therapeutic or preventive agent for use according to claim 15, wherein the malignant tumor is solid cancer.

Patentansprüche

1. Eine Verbindung, dargestellt durch die folgende Formel (1):

[Formel 1]



(1)

wobei X einen Arylrest oder Heteroarylrest bedeutet,
wobei der Arylrest oder Heteroarylrest mit einem oder mehreren Substituenten, ausgewählt aus der Gruppe A, substituiert sein kann,
wobei Gruppe A aus einem C_{1-8}-Alkylrest (wobei der Alkylrest mit einem oder mehreren Substituenten, ausgewählt aus einem Halogenatom, einem Arylrest, einem Heteroarylrest, $-OR^{11}$ und $-NR^{12}R^{13}$, substituiert sein kann), einem C_{2-7}-Alkenylrest (wobei der C_{2-7}-Alkenylrest mit einem oder mehreren Substituenten, ausgewählt aus einem Halogenatom, einem C_{1-8}-Alkylrest, einem Aryl-C_{1-6}-alkylrest, einem Arylrest und einem Heteroarylrest, substituiert sein kann), einem C_{2-7}-Alkinylrest (wobei der C_{2-7}-Alkinylrest mit einem oder mehreren Substituenten, ausgewählt aus einem Halogenatom, einem C_{1-8}-Alkylrest, einem Aryl-C_{1-6}-alkylrest, einem Arylrest und einem Heteroarylrest, substituiert sein kann), einem Halogenatom, einer Hydroxylgruppe, einem Arylrest, einem Heteroarylrest, einer Cyanogruppe, einer Aminogruppe (wobei das Stickstoffatom der Aminogruppe mit einem oder zwei Substituenten, ausgewählt aus einem C_{1-8}-Alkylrest, der mit $-OR^{11}$ oder $-NR^{12}R^{13}$ substituiert sein kann, einem Arylrest, einem Aryl-C_{1-6}-alkylrest und einem Heteroarylrest, substituiert sein kann), $-S(O)_{n1}R^{14}$ (wobei n1 eine ganze Zahl von 0 bis 2 bedeutet), einem C_{1-6}-Alkoxyrest (wobei der Alkoxyrest mit einem oder mehreren Resten, ausgewählt aus einem Arylrest, einem Heteroarylrest, $-OR^{11}$, $-NR^{12}R^{13}$ und einem Halogenatom, substituiert sein kann), einem 4- bis 7-gliedrigen Heterocyclylrest (wobei der Heterocyclylrest mit einem oder mehreren Substituenten, ausgewählt aus einem C_{1-8}-Alkylrest, einem Arylrest, einem Aryl-C_{1-6}-alkylrest und einem Heteroarylrest, substituiert sein kann), einem Aryloxyrest, einem Heteroaryloxyrest und einem C_{1-6}-Alkylendioxyrest besteht;
wobei jedes von R^{11}, R^{12}, R^{13} und R^{14} unabhängig aus einem Wasserstoffatom, einem C_{1-8}-Alkylrest (wobei

der Alkylrest mit einem oder mehreren Substituenten, ausgewählt aus einer Hydroxylgruppe, einem C_{1-6}-Alkoxyrest, einem Aryl-C_{1-6}-alkoxyrest, einem Arylrest und einem Heteroarylrest, substituiert sein kann), einem Arylrest und einem Heteroarylrest ausgewählt ist; oder R^{12} und R^{13} zusammen mit Stickstoff, an den sie gebunden sind, einen 4- bis 7-gliedrigen heterocyclischen Ring bilden können, der mindestens ein Stickstoffatom enthält;

Z O, S oder NRa bedeutet, wobei Ra ein Wasserstoffatom, einen C_{1-8}-Alkylrest, einen Aryl-C_{1-6}-alkylrest, einen Arylrest oder einen Heteroarylrest bedeutet;

Cy einen 4- bis 7-gliedrigen monocyclischen heterocyclischen Ring oder einen 8- bis 10-gliedrigen kondensierten heterocyclischen Ring bedeutet, wobei das Kohlenstoffatom/die Kohlenstoffatome des heterocyclischen Rings mit einem oder mehreren Substituenten, ausgewählt aus der Gruppe Q1, substituiert sein kann/können, und wenn der heterocyclische Ring -NH- enthält, das Stickstoffatom mit einem Substituenten, ausgewählt aus Gruppe Q2, substituiert sein kann;

wobei Gruppe Q1 aus einem C_{1-8}-Alkylrest, der mit einem oder mehreren Substituenten, ausgewählt aus Gruppe B, substituiert sein kann, einem C_{2-7}-Alkenylrest, der mit einem oder mehreren Substituenten, ausgewählt aus Gruppe B, substituiert sein kann, einer Hydroxylgruppe, einem C_{1-6}-Alkoxyrest (wobei der Alkoxyrest mit einem oder mehreren Substituenten, ausgewählt aus einem Halogenatom, einer Hydroxylgruppe, einem C_{1-6}-Alkoxyrest, einer Aminogruppe, einer C_{1-6}-Alkylaminogruppe, einer Di(C_{1-6}-alkyl)aminogruppe, einem Arylrest und einem Heteroarylrest, substituiert sein kann), einem C_{1-6}-Alkylcarbonylrest, -$CONR^{21}R^{22}$, einer Carboxygruppe, einem C_{1-6}-Alkoxycarbonylrest, der mit einem Arylrest substituiert sein kann, einem Aryloxyrest, einem Heteroaryloxyrest, einer Aminogruppe, einer C_{1-6}-Alkylaminogruppe, einer Di-(C_{1-6}-alkyl)aminogruppe, einem 4- bis 7-gliedrigen Heterocyclylrest (wobei der Heterocyclylrest mit einem oder zwei Substituenten, ausgewählt aus einem C_{1-8}-Alkylrest, einem Arylrest, einem Aryl-C_{1-6}-alkylrest und einem Heteroarylrest substituiert sein kann), einer Oxogruppe und einer Thioxogruppe besteht;

wobei jedes von R^{21} und R^{22} unabhängig aus einem Wasserstoffatom, einem C_{1-8}-Alkylrest (wobei der Alkylrest mit einem oder mehreren Substituenten, ausgewählt aus einem Halogenatom, einer Hydroxylgruppe, einem C_{1-6}-Alkoxyrest, einem Arylrest, einer Aminogruppe, einer C_{1-6}-Alkylaminogruppe und einer Di(C_{1-6}-Alkyl)aminogruppe, substituiert sein kann), einem Arylrest und einem Heteroarylrest ausgewählt ist; oder

R^{21} und R^{22} zusammen mit einem Stockstoffatom, an das sie gebunden sind, einen 4- bis 7-gliedrigen Heterocyclylrest bilden können, der mindestens ein Stickstoffatom enthält (wobei der Heterocyclylrest mit einem oder mehreren Substituenten, ausgewählt aus einer Hydroxylgruppe, einem C_{1-8}-Alkylrest (wobei der Alkylrest mit einem oder mehreren Substituenten, ausgewählt aus einer Hydroxylgruppe, einem C_{1-8}-Alkoxyrest und einem Arylrest, substituiert sein kann), einem Arylrest und einem Heteroarylrest, substituiert sein kann);

wobei Gruppe Q2 aus einem C_{1-8}-Alkylrest (wobei der Alkylrest mit einem oder mehreren Substituenten, ausgewählt aus einem Halogenatom, einer Hydroxylgruppe, einem C_{1-6}-Alkoxyrest, einer Aminogruppe, einer C_{1-6}-Alkylaminogruppe, einer Di-(C_{1-6}-alkyl)aminogruppe, einem Arylrest und einem Heteroarylrest, substituiert sein kann), einer C_{1-6}-Alkoxycarbonylgruppe, einer Aryl-C_{1-6}-alkoxycarbonylgruppe, einem Arylrest und einem Heteroarylrest besteht;

wobei Gruppe B aus einem Halogenatom, einem Arylrest, einem Heteroarylrest, einer Oxogruppe, einem C_{1-6}-Alkylcarbonylrest, einem C_{1-6}-Alkylaminocarbonylrest, einem Di-(C_{1-6}-alkyl)aminocarbonylrest, einem C_{1-6}-Alkoxycarbonylrest, einem Azidorest, -OR^{31}, -$NR^{32}R^{33}$ und -$S(O)_{n2}R^{39}$ (wobei n2 eine ganze Zahl von 0 bis 2 bedeutet) besteht;

wobei R^{31} aus einem Wasserstoffatom, -$PO(OR^{41})OR^{42}$, einem C_{1-8}-Alkylrest (wobei der Alkylrest mit einem oder mehreren Substituenten, ausgewählt aus einem Halogenatom, einer Hydroxylgruppe, einem C_{1-6}-Alkoxyrest, der mit einem C_{1-6}-Alkoxyrest substituiert sein kann, einem Arylrest und -$NR^{34}R^{35}$, substituiert sein kann), einem Arylrest, einem Heteroarylrest, einem C_{1-6}-Alkylcarbonylrest, einem C_{2-7}-Alkenylcarbonylrest, einem C_{3-8}-Cycloalkylcarbonylrest (wobei der C_{1-6}-Alkylcarbonylrest, C_{2-7}-Alkenylcarbonylrest und C_{3-8}-Cycloalkylcarbonylrest mit einem oder mehreren Substituenten, ausgewählt aus einer Hydroxylgruppe, -$NR^{37}R^{38}$, einem Arylrest, der mit einer Hydroxylgruppe substituiert sein kann, einem Heteroarylrest, einer Mercaptogruppe, einem C_{1-6}-Alkylthiorest, einem Guanidylrest, einer Carboxygruppe, einem C_{1-6}-Alkoxycarbonylrest, einem C_{1-6}-Alkylcarbonyloxyrest, einem Aryl-C_{1-6}-alkoxyrest, einem Aminocarbonylrest, einem C_{1-6}-Alkylaminocarbonylrest und einem Di(C_{1-6}-alkyl)aminocarbonylrest (wobei der C_{1-6}-Alkylaminocarbonylrest und Di(C_{1-6}-alkyl)aminocarbonylrest mit einem oder mehreren Substituenten, ausgewählt aus einer Aminogruppe, einer C_{1-6}-Alkylaminogruppe und einer Di(C_{1-6}-alkyl)aminogruppe, substituiert sein können), und -$(OCHR^{74}CH_2)_1$-OR^{73} (wobei 1 eine ganze Zahl von 1 bis 20 bedeutet), substituiert sein können), einem Arylcarbonylrest, einem Heteroarylcarbonylrest, einem 4- bis 12-gliedrigen Heterocyclylcarbonylrest (wobei der Arylcarbonylrest, Heteroarylcarbonylrest und Heterocyclylcarbonylrest mit einem oder mehreren Substituenten, ausgewählt aus einer Hydroxylgruppe, einer Carboxygruppe, einem C_{1-6}-Alkylrest, einem C_{1-6}-Alkoxycarbonylrest, einem C_{1-6}-Alkylcarbonylrest (wobei der C_{1-6}-Alkoxycarbonylrest und C_{1-6}-Alkylcarbonylrest mit einem oder mehreren Substituen-

ten, ausgewählt aus einer Hydroxylgruppe, $-NR^{84}R^{85}$ und einer Carboxygruppe, substituiert sein können), einem C_{1-6}-Alkoxycarbonylrest (wobei der C_{1-6}-Alkoxycarbonylrest mit einem oder mehreren 4- bis 12-gliedrigen Heterocyclylresten substituiert sein kann), $-CONR^{71}R^{72}$, $-CO(OCHR^{76}CH_2)_k-OR^{75}$ (wobei k eine ganze Zahl von 1 bis 20 bedeutet) und $-S(O)_{n3}R^{81}$ (wobei n3 eine ganze Zahl von 1 oder 2 bedeutet), substituiert sein können) ausgewählt ist;

jedes von R^{32}, R^{33}, R^{34}, R^{35}, R^{37}, R^{38}, R^{71}, R^{72}, R^{84} und R^{85} unabhängig aus einem Wasserstoffatom, einem C_{1-8}-Alkylrest (wobei der Alkylrest mit einem oder mehreren Substituenten, ausgewählt aus einem Halogenatom, einer Hydroxylgruppe, einem C_{1-6}-Alkoxyrest, $-(OCH_2CH_2)_m-OH$ (wobei m eine ganze Zahl von 1 bis 20 bedeutet), einem C_{1-6}-Alkoxycarbonylrest, einem Arylrest, einer Aminogruppe, einer C_{1-6}-Alkylaminogruppe und einer Di(C_{1-6}-alkyl)aminogruppe, substituiert sein kann), $-S(O)_{n4}R^{83}$ (wobei n4 eine ganze Zahl von 1 oder 2 bedeutet), einem C_{1-6}-Alkylcarbonylrest (wobei der C_{1-6}-Alkylcarbonylrest mit einem oder mehreren Substituenten, ausgewählt aus einer Aminogruppe, einer C_{1-6}-Alkylaminogruppe, einer Di(C_{1-6}-alkyl)aminogruppe, einer Aminocarbonylgruppe, einem Arylrest, der mit einer Hydroxylgruppe substituiert sein kann, einem Heteroarylrest, einer Hydroxylgruppe, einer Mercaptogruppe, einem C_{1-6}-Alkylthiorest, einem Guanidylrest und einer Carboxygruppe, substituiert sein kann), einem C_{1-6}-Alkylaminocarbonylrest, einem C_{1-6}-Alkoxycarbonylrest, einem 4- bis 7-gliedrigen Heterocyclylcarbonylrest, einem Arylrest und einem Heteroarylrest ausgewählt ist; oder

R^{32} und R^{33}, R^{34} und R^{35}, R^{37} und R^{38} und R^{84} und R^{85} zusammen mit einem Stickstoffatom, an das sie gebunden sind, einen 4- bis 7-gliedrigen Heterocyclylrest bilden können, der mindestens ein Stickstoffatom enthält (wobei der Heterocyclylrest mit einem oder mehreren Substituenten, ausgewählt aus einer Hydroxylgruppe, einem C_{1-8}-Alkylrest (wobei der Alkylrest mit einem oder mehreren Substituenten, ausgewählt aus einer Hydroxylgruppe, einem C_{1-8}-Alkoxyrest und einem Arylrest, substituiert sein kann), einem C_{1-8}-Alkoxyrest (wobei der Alkoxyrest mit einem oder mehreren Substituenten, ausgewählt aus einer Hydroxylgruppe, einem C_{1-8}-Alkoxyrest und einem Arylrest, substituiert sein kann), einem Arylrest und einem Heteroarylrest substituiert sein kann);

jedes von R^{39} und R^{83} unabhängig aus einem Wasserstoffatom, einem C_{1-8}-Alkylrest (wobei der Alkylrest mit einem oder mehreren Substituenten, ausgewählt aus einer Hydroxylgruppe, einem C_{1-6}-Alkoxyrest, einem Aryl-C_{1-6}-alkoxyrest, einem Arylrest und einem Heteroarylrest, substituiert sein kann), einem C_{2-8}-Alkenylrest, einem C_{3-6}-Cycloalkylrest, einem Arylrest und einem Heteroarylrest ausgewählt ist;

jedes von R^{41} und R^{42} unabhängig aus einem Wasserstoffatom, einem Aryl-C_{1-6}-alkylrest und einem C_{1-8}-Alkylrest ausgewählt ist;

jedes von R^{73} und R^{75} unabhängig aus einem Wasserstoffatom, einem C_{1-6}-Alkylrest, der mit einer oder mehreren Hydroxylgruppen substituiert sein kann, und einem Aryl-C_{1-6}-alkylrest ausgewählt ist;

jedes Vorkommen von R^{74} und R^{76} unabhängig aus einem Wasserstoffatom, einem C_{1-6}-Alkylrest, einem C_{1-6}-Alkylrest, der mit (einer) Hydroxylgruppe(n) substituiert ist, und $-CH_2(OCH_2CH_2)_i-OR^{80}$ (wobei i eine ganze Zahl von 1 bis 20 bedeutet) ausgewählt ist;

R^{80} aus einem Wasserstoffatom, einem Aryl-C_{1-6}-alkylrest und einem C_{1-6}-Alkylrest, der mit einer oder mehreren Hydroxylgruppen substituiert sein kann, ausgewählt ist; und

R^{81} einen C_{1-6}-Alkylrest bedeutet;

oder ein pharmazeutisch verträgliches Salz davon; wobei der Ausdruck "C_{1-8}-Alkylrest" einen linearen oder verzweigten Alkylrest mit 1 bis 8 Kohlenstoffatomen oder einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 8 Kohlenstoffatomen bedeutet; der Ausdruck "C_{1-6}-Alkoxyrest" einen Alkyloxyrest mit einem linearen oder verzweigten Alkylrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 6 Kohlenstoffatomen als Alkylanteile desselben bedeutet; der Ausdruck "Halogen-C_{1-6}-alkylrest" einen mit einem oder mehreren Halogenatomen substituierten Alkylrest bedeutet, der als Alkylanteile desselben einen linearen oder verzweigten Alkylrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 6 Kohlenstoffatomen aufweist; der Ausdruck "Halogen-C_{1-6}-alkoxyrest" einen mit einem oder mehreren Halogenatomen substituierten Alkoxyrest bedeutet, der als Alkylanteile desselben einen linearen oder verzweigten Alkylrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 6 Kohlenstoffatomen aufweist; der Ausdruck "C_{1-6}-Alkylaminogruppe" eine Alkylaminogruppe bedeutet, die als Alkylanteile derselben einen linearen oder verzweigten Alkylrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 6 Kohlenstoffatomen aufweist, der Ausdruck "Di(C_{1-6}-alkyl)aminogruppe" eine Dialkylaminogruppe bedeutet, die als zwei Alkylanteile einen linearen oder verzweigten Alkylrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 6 Kohlenstoffatomen aufweist, wobei die beiden Alkylanteile entweder identisch oder voninander verschieden sein können; der Ausdruck "C_{1-6}-Alkylcarbonylrest" einen Alkylcarbonylrest bedeutet, der als Alkylanteile desselben einen linearen oder verzweigten Alkylrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 6 Kohlenstoffatomen bedeutet; der Ausdruck "C_{1-6}-Alkylcarbonylaminogruppe" eine Alkylcarbonylaminogruppe bedeutet,

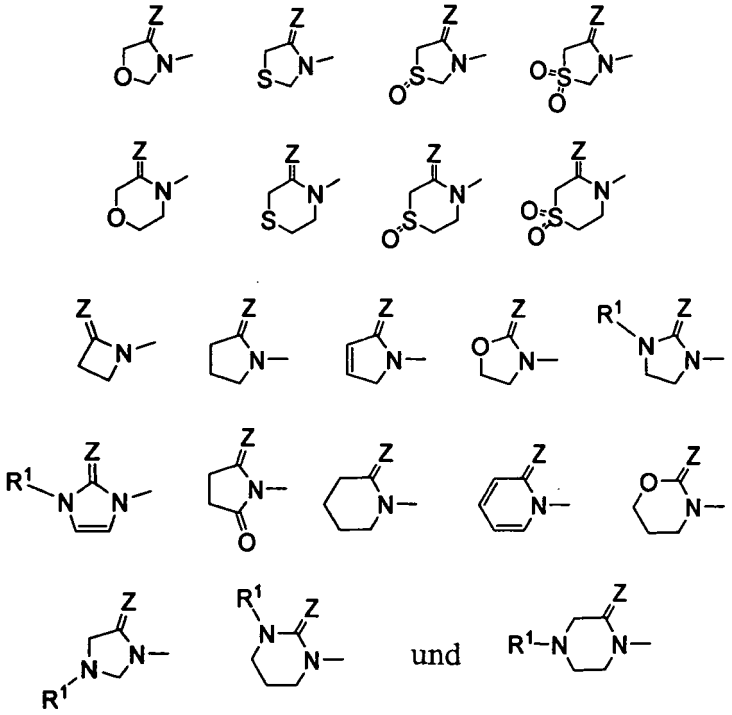
die als Alkylanteile derselben einen linearen oder verzweigten Alkylrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 6 Kohlenstoffatomen aufweist; der Ausdruck "C_{1-6}-Alkylcarbonyloxyrest" einen Alkylcarbonyloxyrest bedeutet, der als Alkylanteile desselben einen linearen oder verzweigten Alkylrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 6 Kohlenstoffatomen aufweist; der Ausdruck "C_{1-6}-Alkoxycarbonylrest" einen Alkoxycarbonylrest bedeutet, der als Alkoxyanteile desselben einen linearen oder verzweigten Alkoxyrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkoxyrest mit 3 bis 6 Kohlenstoffatomen aufweist; der Ausdruck "C_{1-6}-Alkylaminocarbonylrest" einen Alkylaminocarbonylrest bedeutet, der als Alkylanteile desselben einen linearen oder verzweigten Alkylrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 6 Kohlenstoffatomen aufweist; der Ausdruck "Di(C_{1-6}-alkyl)aminocarbonylrest" einen Dialkylaminocarbonylrest bedeutet, der als zwei Alkylanteile desselben einen linearen oder verzweigten Alkylrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 6 Kohlenstoffatomen aufweist, die entweder gleich oder voninander verschieden sein können; der Ausdruck "Amino-C_{1-6}-alkoxycarbonylrest" einen Aminoalkoxycarbonylrest bedeutet, der als Alkoxyanteile desselben einen linearen oder verzweigten Alkoxyrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkoxyrest mit 3 bis 6 Kohlenstoffatomen aufweist; der Ausdruck "Hydroxy-C_{1-6}-alkylrest" einen Hydroxyalkylrest bedeutet, der als Alkylanteile desselben einen linearen oder verzweigten Alkylrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 6 Kohlenstoffatomen aufweist; der Ausdruck "C_{1-6}-Alkylthiorest" einen Alkylthiorest bedeutet, der als Alkylanteile desselben einen linearen oder verzweigten Alkylrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 6 Kohlenstoffatomen aufweist; der Ausdruck "Aryl-C_{1-6}-alkylrest" einen Aralkylrest bedeutet, der als einen Arylrest desselben den definierten aromatischen Kohlenwasserstoffrest mit 6 bis 10 Kohlenstoffatomen und als Alkylanteile desselben einen linearen oder verzweigten Alkylrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkylrest mit 3 bis 6 Kohlenstoffatomen aufweist; der Ausdruck "Aryl-C_{1-6}-alkoxyrest" einen Aralkyloxyrest bedeutet, der als einen Arylrest desselben den definierten aromatischen Kohlenwasserstoffrest mit 6 bis 10 Kohlenstoffatomen und als Alkoxyanteile desselben einen linearen oder verzweigten Alkoxyrest mit 1 bis 6 Kohlenstoffatomen und einen cyclischen oder teilweise cyclischen Alkoxyrest mit 3 bis 6 Kohlenstoffatomen aufweist.

2. Die Verbindung oder das pharmazeutisch verträgliche Salz davon nach Anspruch 1,
wobei das Kohlenstoffatom/die Kohlenstoffatome von Cy mit einem oder zwei Resten, ausgewählt aus einer Hydroxylgruppe und den Resten -C(=O)-OR^{50}, -$CR^{51}R^{52}$-OR^{53}, -$CR^zR^qCR^{51}R^{52}$-OR^{53}, -C(=O) -$NR^{54}R^{55}$ und -$CR^{51}R^{52}$-$NR^{56}R^{57}$, substituiert sind;
R^{50} ein Wasserstoffatom oder einen C_{1-6}-Alkylrest bedeutet (wobei der Alkylrest mit einer Hydroxylgruppe oder einem C_{1-6}-Alkoxyrest substituiert sein kann);
jedes von R^{51} und R^{52} unabhängig aus einem Wasserstoffatom, einem C_{1-3}-Alkylrest (wobei der Alkylrest mit einem oder mehreren Substituenten, ausgewählt aus einer Hydroxylgruppe und einer Aminogruppe, substituiert sein kann) und einem C_{2-3}-Alkenylrest ausgewählt ist;
jedes von R^z und R^q unabhängig aus einem Wasserstoffatom und einem C_{1-3}-Alkylrest ausgewählt ist;
R^{53} ein Wasserstoffatom, einen C_{1-6}-Alkylrest (wobei der Alkylrest mit 1 bis 3 Substituenten, ausgewählt aus einem Arylrest, einer Hydroxylgruppe, einem C_{1-6}-Alkoxyrest, einem C_{1-6}-Alkoxy-C_{1-6}-alkoxyrest, und -NR^xR^y, substituiert sein kann), einen C_{1-6}-Alkylcarbonylrest (wobei der Alkylcarbonylrest mit 1 bis 3 Substituenten, ausgewählt aus einer Hydroxylgruppe, einem C_{1-3}-Alkoxyrest einem Arylrest, -$NR^{61}R^{62}$, einer Carboxygruppe, -$CONR^{63}R^{64}$ und -$(OCHR^{74}CH_2)_1$-OR^{73} (wobei R^{73}, R^{74} und 1 wie in Anspruch 1 definiert sind), substituiert sein kann), einen Arylcarbonylrest oder einen 4- bis 7-gliedrigen Heterocyclylcarbonylrest (wobei der Arylcarbonylrest und Heterocyclylcarbonylrest mit einem oder mehreren Substituenten, ausgewählt aus einem Carboxyrest, einem C_{1-6}-Alkoxycarbonylrest und einem C_{1-6}-Alkylcarbonylrest (wobei der C_{1-6}-Alkoxycarbonylrest und C_{1-6}-Alkylcarbonylrest mit einem oder mehreren Substituenten, ausgewählt aus -$NR^{61}R^{62}$, einer Carboxygruppe und einer Hydroxylgruppe, substituiert sein können), substituiert sein können) oder -$CO(OCHR^{76}CH_2)_k$-OR^{75} (wobei R^{75}, R^{76} und k wie in Anspruch 1 definiert sind) bedeutet,
jedes von R^{54} und R^{55} unabhängig aus einem Wasserstoffatom und einem C_{1-6}-Alkylrest (wobei der Alkylrest mit einer Hydroxylgruppe oder einer Aminogruppe substituiert sein kann) ausgewählt ist;
oder R^{54} und R^{55} zusammen mit einem Stickstoffatom, an das sie gebunden sind, einen 4- bis 7-gliedrigen heterocyclischen Ring bilden können (wobei der heterocyclische Ring mit 1 bis 3 Substituenten, ausgewählt aus einer Hydroxylgruppe und einer Hydroxy-C_{1-6}-alkylgruppe, substituiert sein kann);
jedes von R^{56} und R^{57} unabhängig aus einem Wasserstoffatom, einem C_{1-6}-Alkylrest (wobei der Alkylrest mit einer Hydroxylgruppe oder einer Aminogruppe substituiert sein kann) und einem C_{1-6}-Alkylsulfonylrest (wobei der Alkylsulfonylrest mit einer Hydroxylgruppe oder einer Aminogruppe substituiert sein kann) ausgewählt ist; oder R^{56} und R^{57} zusammen mit einem Stickstoffatom, an das sie gebunden sind, einen 4- bis 7-gliedrigen heterocyclischen

Ring bilden können (wobei der heterocyclische Ring mit 1 bis 3 Substituenten, ausgewählt aus einer Hydroxylgruppe und einem Hydroxy-C_{1-6}-alkylrest, substituiert sein kann);
jedes von R^{61} und R^{62} unabhängig aus einem Wasserstoffatom, einem C_{1-6}-Alkylrest und einem C_{1-6}-Alkylcarbonylrest ausgewählt ist (wobei der Alkylcarbonylrest mit 1 bis 3 Substituenten, ausgewählt aus einer Hydroxylgruppe, einem C_{1-3}-Alkoxyrest, einem Arylrest, einer Aminogrupe, einer C_{1-6}-Alkylaminogruppe, einer Di(C_{1-6}-alkyl)aminogruppe und einer Carboxygruppe, substituiert sein kann); oder R^{61} und R^{62} zusammen mit einem Stickstoffatom, an das sie gebunden sind, einen 4- bis 7-gliedrigen heterocyclischen Ring bilden können;
jedes von R^x und R^y unabhängig aus einem Wasserstoffatom und einem C_{1-6}-Alkylrest ausgewählt ist und
jedes von R^{63} und R^{64} unabhängig aus einem Wasserstoffatom und einem C_{1-6}-Alkylrest ausgewählt ist (wobei der Alkylrest mit einer Hydroxylgruppe oder einer Aminogruppe substituiert sein kann);
oder R^x und R^y oder R^{63} und R^{64} zusammen mit einem Stickstoffatom, an das sie gebunden sind, einen 4- bis 7-gliedrigen heterocyclischen Ring bilden können.

3. Die Verbindung oder das pharmazeutisch verträgliche Salz davon nach Anspruch 1 oder 2, wobei Cy einen heterocyclischen Ring, ausgewählt aus der folgenden Gruppe, bedeutet:

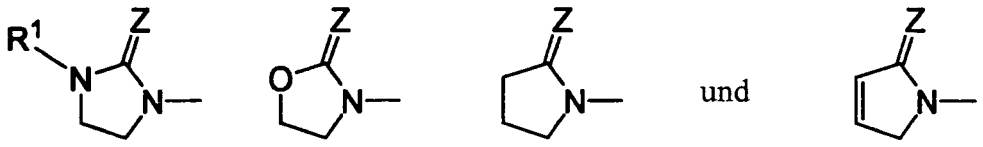
[Formel 2]



wobei das Kohlenstoffatom/die Kohlenstoffatome des heterocyclischen Rings mit einem oder mehreren Substituenten, ausgewählt aus Gruppe Q1, substituiert sein kann/können; und
R^1 ein Wasserstoffatom, einen C_{1-8}-Alkylrest (wobei der Alkylrest mit einem oder mehreren Substituenten, ausgewählt aus einem Halogenatom, einer Hydroxylgruppe, einem C_{1-6}-Alkoxyrest, einer Aminogruppe, einer C_{1-6}-Alkylaminogruppe, einer Di(C_{1-6}-alkyl)aminogruppe, einem Arylrest, und einem Heteroarylrest, substituiert sein kann), einen C_{1-6}-Alkoxycarbonylrest, einen Aryl-C_{1-6}-alkoxycarbonylrest, einen Arylrest oder einen Heteroarylrest bedeutet.

4. Die Verbindung oder ein pharmazeutisch verträgliches Salz davon nach Anspruch 3, wobei Cy einen heterocyclischen Ring, ausgewählt aus der folgenden Gruppe, bedeutet:

[Formel 3]



5. Die Verbindung oder das pharmazeutisch verträgliche Salz davon nach einem der Ansprüche 1 bis 4, wobei X einen Arylrest bedeutet, wobei der Arylrest mit einem oder mehreren Substituenten, ausgewählt aus der Gruppe A1, substituiert sein kann;
wobei Gruppe A1 aus einem C_{1-8}-Alkylrest (wobei der Alkylrest mit einem oder mehreren Substituenten, ausgewählt aus einem Halogenatom und $-NR^{12}R^{13}$, substituiert sein kann), einem Halogenatom, einer Hydroxylgruppe, einem Arylrest, einer Aminogruppe (wobei das Stickstoffatom der Aminogruppe mit einem oder zwei Substituenten, ausgewählt aus einem C_{1-8}-Alkylrest und einem Arylrest, substituiert sein kann), $-SR^{14}$, einem C_{1-6}-Alkoxyrest (wobei der Alkoxyrest mit einem oder mehreren Substituenten, ausgewählt aus $-OR^{11}$ und einem Halogenatom, substituiert sein kann) und einem 4- bis 7-gliedrigen Heterocyclylrest (wobei der Heterocyclylrest mit einem oder zwei Substituenten, ausgewählt aus C_{1-8}-Alkylresten, substituiert sein kann) besteht; wobei jedes von R^{11}, R^{12}, R^{13} und R^{14} unabhängig aus einem Wasserstoffatom, einem C_{1-8}-Alkylrest und einem Arylrest ausgewählt ist; oder R^{12} und R^{13} zusammen mit dem Stickstoff, an den sie gebunden sind, einen 4- bis 7-gliedrigen heterocyclischen Ring bilden können, der mindestens ein Stickstoffatom enthält.

6. Die Verbindung oder das pharmazeutisch verträgliche Salz davon nach einem der Ansprüche 1 bis 5, wobei Z O bedeutet.

7. Die Verbindung oder das pharmazeutisch verträgliche Salz davon nach einem der Ansprüche 1 bis 6, wobei der Substituent/die Substituenten an dem Ringkohlenstoffatom/den Ringkohlenstoffatomen von Cy aus einer Hydroxylgruppe, einem C_{1-8}-Alkylrest (wobei der Alkylrest mit einem oder mehreren Substituenten, ausgewählt aus einer Hydroxylgruppe, einer C_{1-6}-Alkylaminogruppe, einer Di(C_{1-6}-alkyl)aminogruppe, einem 4- bis 7-gliedrigen Heterocyclylrest, der mindestens ein Stickstoffatom enthält (wobei der Heterocyclylrest mit einer Hydroxylgruppe oder einem C_{1-6}-Alkylrest, der mit einer Hydroxylgruppe substituiert sein kann, substituiert sein kann) einem C_{1-6}-Alkylcarbonyloxyrest (wobei der C_{1-6}-Alkylcarbonyloxyrest mit einem oder zwei Substituenten, ausgewählt aus einer Hydroxylgruppe und $-(OCH_2CH_2)_1-OR^{73}$ (wobei R^{73} und 1 wie in Anspruch 1 definiert sind), substituiert sein kann), $-OCO(OCHR^{76}CH_2)_k-OR^{75}$ (wobei R^{75}, R^{76} und k wie in Anspruch 1 definiert sind) substituiert sein kann) und $-CONR^{91}R^{92}$ ausgewählt sind;
wobei jedes von R^{91} und R^{92} aus einem Wasserstoffatom und einem C_{1-6}-Alkylrest ausgewählt ist; oder R^{91} und R^{92} zusammen mit dem Stickstoff, an den sie gebunden sind, einen 4- bis 7-gliedrigen heterocyclischen Ring bilden können, der mindestens ein Stickstoffatom enthält (wobei der heterocyclische Ring mit einer Hydroxylgruppe substituiert sein kann).

8. Die Verbindung oder das pharmazeutisch verträgliche Salz davon nach einem der Ansprüche 1 bis 7, wobei der Substituent/die Substituenten an dem Ringkohlenstoffatom/den Ringkohlenstoffatomen von Cy aus einer Hydroxylgruppe, einer Hydoxymethylgruppe und einer 1-Hydroxy-1-methylethylgruppe ausgewählt sind.

9. Die Verbindung oder das pharmazeutisch verträgliche Salz davon nach einem der Ansprüche 1 bis 7, wobei der Substituent/die Substituenten an dem Ringkohlenstoffatom/den Ringkohlenstoffatomen von Cy $-CH_2-OCOCH_2-(OCH_2CH_2)_1-OR^{73}$ (wobei R^{73} und 1 wie in Anspruch 1 definiert sind), eine Propionyloxymethylgruppe, die mit einer oder zwei Hydroxylgruppen substituiert ist, oder $-CH_2-OCO(OCHR^{76}CH_2)_k-OR^{75}$ (wobei R^{75}, R^{76} und k wie in Anspruch 1 definiert sind) sind.

10. Die Verbindung oder das pharmazeutisch verträgliche Salz davon nach einem der Ansprüche 1 bis 7, wobei ein Substituent an dem Ringstickstoffatom von Cy aus C_{1-8}-Alkylresten (wobei der Alkylrest mit einer Hydroxylgruppe substituiert sein kann) ausgewählt ist.

11. Die Verbindung oder das pharmazeutisch verträgliche Salz davon nach einem der Ansprüche 1 bis 10, wobei X

einen Arylrest bedeutet, wobei der Arylrest mit einem oder mehreren Substituenten, ausgewählt aus einem Halogenatom, einem C_{1-6}-Alkylrest, einem Halogen-C_{1-6}-alkylrest, einem C_{1-6}-Alkoxyrest, einem Halogen-C_{1-6}-alkoxyrest, einem Arylrest und einem 4- bis 7-gliedrigen Heterocyclylrest, substituiert sein kann.

12. Die Verbindung oder das pharmazeutisch verträgliche Salz davon nach einem der Ansprüche 1 bis 11, wobei X einen Arylrest bedeutet, wobei der Arylrest mit einer Ethylgruppe, einer Trifluormethylgruppe, einer Trifluormethoxygruppe, einer Ethoxygruppe, einer Propoxygruppe, einem Phenylrest oder einem Morpholinylrest substituiert sein kann.

13. Die Verbindung oder das pharmazeutisch verträgliche Salz davon nach Anspruch 1, wobei die Verbindung ausgewählt ist aus:

7-(2-Oxoazetidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-(2-Oxopiperidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-(2-Oxo-2H-pyridin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-4-Hydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((S)-4-Hydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-(4-Methoxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((S)-2-Hydroxymethyl-5-oxopyrrolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-(4-Benzyloxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[3-(2-Hydroxyethyl)-2-oxoimidazolidin-1-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-4-Hydroxymethyl-2-oxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-4-ylmethylbenzoat,
7-(5-Chlormethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((S)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-(2-Oxopyrrolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-2-Hydroxymethyl-5-oxopyrrolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-(2-Oxooxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on, 7-(3-Methyl-2-oxo-2,3-dihydroimidazol-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-morpholin-4-ylphenyl)-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methoxyphenyl)-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-o-tolyl-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethoxyphenyl)-2H-isochinolin-1-on,
3-Biphenyl-2-yl-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on, 3-(2-Ethylphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on,
3-(2,6-Dimethoxyphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on,
3-(2-Fluorphenyl)-7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on,
7-((S)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethoxyphenyl)-2H-isochinolin-1-on,
7-((S)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-morpholin-4-ylphenyl)-2H-isochinolin-1-on,
7-[5-(2-Hydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-(5-Azidomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-(5-Aminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
N-{2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl}acetamid,
7-(5-Morpholin-4-ylmethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[5-(4-Hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-4-Benzyloxymethyl-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-4-Hydroxymethyl-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
3-(2-Ethylphenyl)-7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on,
7-[(S)-5-(2-Hydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(S)-5-((R)-1,2-Dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
3-{2-[2-(2-Benzyloxyethoxy)ethoxy]phenyl}-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on,
3-{2-[2-(2-Hydroxyethoxy)ethoxy]phenyl}-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on,
3-{2-[2-(2-Hydroxyethoxy)ethoxy]phenyl}-7-((S)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on,
3-(2,6-Bistrifluormethylphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on,
7-[5-(2-Hydroxy-1-hydroxymethylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
Ethyl-2-oxo-1-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]pyrrolidin-3-carboxylat,
7-(3-Hydroxymethyl-2-oxopyrrolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-isobutylphenyl)-2H-isochinolin-1-on,
3-(2-Allylphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on,
7-(2-Oxo-[1,3]oxazinan-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-(4-Hydroxy-2-oxo-2,5-dihydropyrrol-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
1-[1-Oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]pyrrolidin-2,5-dion,
Ethyl-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-carboxylat,
Methyl-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-carboxylat,
7-[5-(1-Hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-carbonsäure,
2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-carbonsäureamid,
2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-carbonsäuremethylamid,
2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-carbonsäuredimethylamid,
2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-carbonsäure(2-hydroxyethyl)amid,
7-[5-(Morpholin-4-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[5-(4-Hydroxypiperidin-1-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(S)-5-(1-Hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(R)-5-(1-Hydroxy-1-methylethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-carbonsäureamid,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-carbonsäureamid,
7-[(S)-5-(4-Hydroxypiperidin-1-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(R)-5-(4-Hydroxypiperidin-1-carbonyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(R)-5-(2-Methoxyethoxymethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-5-Methoxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-{(R)-5-[2-(2-Methoxyethoxy)ethoxymethyl]-2-oxooxazolidin-3-yl}-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(R)-5-(2-Morpholin-4-ylethoxymethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-5-Benzyloxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((S)-2-Oxo-5-piperidin-1-ylmethyloxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(S)-5-((S)-2-Hydroxymethylpyrrolidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(S)-5-((S)-3-Hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(S)-5-((R)-3-Hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(S)-5-((R)-2-Hydroxymethylpyrrolidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(S)-5-(4-Hydroxymethylpiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(S)-5-(4-Methoxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((S)-5-Morpholin-4-ylmethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(S)-(4-Hydroxypiperidin-1-ylmethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
N-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl}methansulfonamid,
Ethansulfonsäure-{(R)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl}amid,
Propan-1-sulfonsäure-{(R)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl} amid,
Propan-2-sulfonsäure-{(R)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl}amid,
Pentan-1-sulfonsäure-{(R)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl} amid,
N-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl}benzolsulfonamid,
Ethensulfonsäure-{(R)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl} amid,
2-Hydroxyethansulfonsäure-{(R)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl}}amid,

7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-propylphenyl)-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-methylallyl)phenyl]-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-propoxyphenyl)-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-methoxyethoxy)phenyl]-2H-isochinolin-1-on,
3-(2-Ethoxyphenyl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on,
3-[2-(2,3-Dihydroxy-2-methylpropyl)phenyl]-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-[2-(2-hydroxypropyl)phenyl]-2H-isochinolin-1-on,
3-(1-Ethyl-1H-benzimidazol-2-yl)-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methylsulfanylphenyl)-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-methansulfonylphenyl)-2H-isochinolin-1-on,
7-(4-Hydroxy-5-hydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(S)-5-((S)-1,2-Dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
Cyclopropansulfonsäure-{(R)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl}amid,
7-(4-Hydroxymethyl-2-oxopyrrolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((S)-3-Hydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on, 2-Oxo-1-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]pyrrolidin-3-carbonsäuredimethylamid,
7-(3-Morpholin-4-ylmethyl-2-oxopyrrolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-(2-Oxo-3-piperidin-1-ylmethylpyrrolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[3-(4-Hydroxypiperidin-1-ylmethyl)-2-oxopyrrolidin-1-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((3R,4R)-3,4-Dihydroxy-2-oxopyrrolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-(5-Hydroxymethyl)-3-methyl-2-oxoimidazolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-4-Benzyloxymethyl-2-oxoimidazolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-4-Hydroxymethyl-2-oxoimidazolidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-(3-Methyl-2-oxotetrahydropyrimidin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
Benzyl-3-oxo-4-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]piperazin-1-carboxylat,
7-(2-Oxopiperazin-1-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on, 7-[(R)-5-((S)-1,2-Dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(R)-5-((R)-1,2-Dihydroxyethyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-(5,5-Bishydroxymethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[3-(2-Hydroxyethyl)-5-oxoimidazolidin-1-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(3-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-naphthalin-1-yl-2H-isochinolin-1-on, 3-Furan-2-yl-7-((R)-5-hydroxymethyl-2-oxooxazolidin-3-yl)-2H-isochinolin-1-on, 7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-thiophen-2-yl-2H-isochinolin-1-on,
7-((S)-5-Dimethylaminomethyl-2-oxooxazolidin-3-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-[(S)-5-(1-Hydroxy-1-vinylallyl)-2-oxooxazolidin-3-yl]-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(4-trifluormethylphenyl)-2H-isochinolin-1-on,
7-((R)-5-Hydroxymethyl-2-oxooxazolidin-3-yl)-3-(3-methylthiophen-2-yl)-2H-isochinolin-1-on,
7-(3-Oxomorpholin-4-yl)-3-(2-trifluormethylphenyl)-2H-isochinolin-1-on, (R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylmethylaminoacetat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylaminoacetat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl (S)-2-aminopropionat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(S)-pyrrolidin-2-carboxylat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(S)-2-aminobutanoat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(S)-2-aminopentanoat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(S)-2-amino-4-methyl-pentanoat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(2S,3S)-2-amino-3-methylpentanoat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(S)-2-amino-3-methyl-butanoat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylinethyl-(S)-2-amino-

hexanoat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyldimethylaminoacetat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-3-aminopropionat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(S)-2-amino-3-phenylpropionat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-4-aminobutanoat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-3-methylaminopropionat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-3-dimethylaminopropionat,
3-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} propionsäure,
2- {(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} benzoesäure,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-2-aminoethylsuccinamat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylmethylaminoacetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyldimethylaminoacetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(S)-2-amino-3-methylbutyrat,
(R)-2-Oxo-3-[1-oxo-3-trifluormethylphenyl]-1,2-dihydroisochinolin-7-yl]-oxazolidin-5-ylmethyl-2-amino-2-methylpropionat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-2-methyl-2-(methylamino)propionat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-1-amino-cyclopentancarboxylat,
Dibenzylphosphoat-(R)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]-oxazolidin-5-ylmethylester,
3- {(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} propionsäure,
2- {(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} benzoesäure,
3-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} butansäure,
(Z)-3-{(R)-2-0xo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} acrylsäure,
2-(1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylethoxycarbonyl}propionsäure,
2-(1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylethoxycarbonyl}benzoesäure,
1-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]-oxazolidin-5-ylmethyl}-(S)-2-aminosuccinat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(S)-2-amino-3-hydroxypropionat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(2S,3R)-2-amino-3-hydroxybutanoat,
(Z)-3-{(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}acrylsäure,
3-{(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} butansäure,
2-(1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylethoxycarbonyl}butansäure,
3- {(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethoxycarbo-

nyl}-(S)-2-hydroxypropionsäure,
3-{(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl} ethansäure,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(R)-2,3-dihydroxypropionat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-3-hydroxy-2-hydroxymethyl-2-methylpropionat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-3-hydroxy-2,2-bishydroxymethylpropionat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(2-aminoacetyl)methylaminoacetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-2-aminoacetylaminoacetat,
5- {(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl}-(S)-2-[(S)-2-amino-3-(1H-indol-3-yl)-propionylamino]-pentandioat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-[2-(2-hydroxyethoxy)ethyl]carbamat,
(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(2,3-dihydroxypropyl)carbamat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(2,3-dihydroxypropyl)carbamat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(2-hydroxy-1-hydroxymethylethyl)carbamat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-[(2R,3S)-2,3,4-trihydroxybutyl]carbamat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-[(2S,3R,4R,5R)-2,3,4,5,6-pentahydroxyhexyl]carbamat,
Ethyl-{(R)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethoxycarbonylamino} acetat,
Ethylcarbonat-(R)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylnicotinat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylacetoxyacetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(2-methoxyethoxy)acetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-[2-(2-methoxyethoxy)ethoxy]acetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-[2-(2- {2-[2-(2-methoxyethoxy)ethoxy]ethoxy} ethoxy)ethoxy]acetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl- {2-[2-(2-methoxyethoxy)ethoxy]ethoxy} acetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)acetat, (S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}-acetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-[2-(2-hydroxyethoxy)ethoxy]acetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl- {2-[2-(2-hydroxyethoxy)ethoxy]ethoxy} acetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-[2-(2- {2-[2-(2-hydroxyethoxy)ethoxy]ethoxy} ethoxy)ethoxy]acetat, (S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylinethyl-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy} ethoxy)-ethoxy] ethoxy} acetat,
2-[2-(2-Methoxy-1-methylethoxy)-1-methylethoxy]-1-methylethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-(2-Hydroxyethoxy)ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl] oxazolidin-5-ylmethylester,
2-[2-(2-Hydroxyethoxy)ethoxy]ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,

2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-[2-(2- {2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluonnethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylcarbonat-1,4,7,10-tetraoxacyclododec-2-ylmethylester,
2-(2-Hydroxy-1-hydroxymethylethoxy)ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2- {2-[2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}-ethoxy)ethoxy]ethoxy}ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy} ethoxy)ethoxy]-ethoxy}ethoxy)ethoxy]ethoxy}ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-[2-(2-Hydroxyethoxy)ethoxy]-1-[2-(2-hydroxyethoxy)ethoxymethyl]ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-[2-(2-Hydroxyethoxy)ethoxy]-1-{2-[2-(2-hydroxyethoxy)ethoxy]-1-[2-(2-hydroxyethoxy)ethoxymethyl]ethoxymethyl}ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-(2-Hydroxyethoxy)-1-(2-hydroxyethoxymethyl)ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester, 2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}-1-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxymethyl}ethylearbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethyl-carbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy} - ethoxy)ethylcarbonat-(S)-2-oxo-3-[[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-[2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}-ethoxy)ethoxy]ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]-ethoxy}ethoxy)ethoxy]ethoxy}-ethoxy)ethoxy]ethoxy} ethoxy)-essigsäure-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-yl}ethylaminoacetat,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-yl)ethylinethylaminoacetat,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-yl}ethyl dimethylaminoacetat,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-triflormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-yl}ethyl-4-aminobutanoat,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-yl}ethyl-(S)-2-aminopropionat,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-yl}ethyl-(S)-2-amino-3-methylbutanoat,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-yl} ethyl-(S)-pyrrolidin-2-carboxylat,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-yl}ethyl-[(2-aminoacetyl)methylamino]acetat,
1-Methyl-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-yl}ethyl-(S)-1-(2-aminoacetyl)pyrrolidin-2-carboxylat,
(E)-3- {(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethoxycarbonyl}acrylsäure,
1-{(R)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxa-zolidin-5-ylmethyl}-(S)-2-aminopentandionat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(2S,3R,4S,5R)-3,4,5,6-tetrahydroxytetrahydropyran-2-carboxylat,
(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)essigsäure-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]essigsäure-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,

{2-[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}-ethoxy)ethoxy]ethoxy}essigsäure-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}-ethoxy)ethoxy]ethoxy}ethoxy)ethoxy]essigsäure-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
{2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]-ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}essigsäure-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]-ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}-ethoxy)ethoxy]ethoxy}ethoxy)ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-[2-(2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}-ethoxy)ethoxy]ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-(2-{2-.[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)-ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-{2-[2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethyl-carbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-[2-(2- {2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-(2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethoxy)ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-{2-[2-(2-Methoxyethoxy)ethoxy]ethoxy}ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-[2-(2-Methoxyethoxy)ethoxy]ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-(2-Methoxyethoxy)ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
2-Methoxyethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}-thoxy)acetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-[2-(2- {2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy} ethoxy)ethoxy]-ethoxy}ethoxy)ethoxy]acetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]-ethoxy}ethoxy)ethoxy]ethoxy}acetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)acetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)ethoxy]acetat,
(S)-2-Oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethyl-{2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyethoxy)ethoxy]ethoxy}-ethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}ethoxy)ethoxy]ethoxy}acetat,
2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]-ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester und
2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-Hydroxyethoxy)ethoxy]ethoxy}ethoxy)ethoxy]-ethoxy}ethoxy)-ethoxy]ethoxy}ethoxy)ethoxy]ethylcarbonat-(S)-2-oxo-3-[1-oxo-3-(2-trifluormethylphenyl)-1,2-dihydroisochinolin-7-yl]oxazolidin-5-ylmethylester.

14. Ein Arzneimittel, welches als einen Wirkstoff die Verbindung oder das pharmazeutisch verträgliche Salz davon nach einem der Ansprüche 1 bis 13 umfasst.

15. Ein therapeutisches oder präventives Mittel zur Verwendung bei der Behandlung eines bösartigen Tumors, welches als einen Wirkstoff die Verbindung oder das pharmazeutisch verträgliche Salz davon nach einem der Ansprüche 1

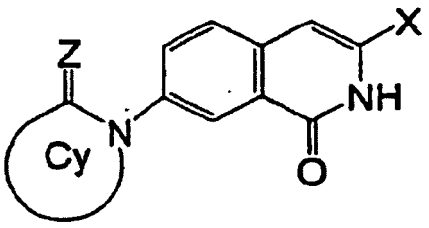
bis 13 umfasst.

16. Das therapeutische oder präventive Mittel zur Verwendung nach Anspruch 15, wobei der bösartige Tumor solider Krebs ist.

Revendications

1. Composé représenté par la formule suivante (1) :

[Formule 1]



dans laquelle X représente un groupe aryle ou un groupe hétéroaryle, le groupe aryle ou le groupe hétéroaryle pouvant être substitué par un ou plusieurs substituants choisis dans le Groupe A ;
dans lequel le Groupe A consiste en un groupe alkyle en C_{1-8} (le groupe alkyle pouvant être substitué par un ou plusieurs substituants choisis parmi un atome d'halogène, un groupe aryle, un groupe hétéroaryle, $-OR^{11}$, et $-NR^{12}R^{13}$), un groupe alcényle en C_{2-7} (le groupe alcényle en C_{2-7} pouvant être substitué par un ou plusieurs substituants choisis parmi un atome d'halogène, un groupe alkyle en C_{1-8}, un groupe aryl-(alkyle en C_{1-6}), un groupe aryle, et un groupe hétéroaryle), un groupe alcynyle en C_{2-7} (le groupe alcynyle en C_{2-7} pouvant être substitué par un ou plusieurs substituants choisis parmi un atome d'halogène, un groupe alkyle en C_{1-8}, un groupe aryl-(alkyle en C_{1-6}), un groupe aryle, et un groupe hétéroaryle), un atome d'halogène, un groupe hydroxyle, un groupe aryle, un groupe hétéroaryle, un groupe cyano, un groupe amino (l'atome d'azote du groupe amino pouvant être substitué par un ou deux substituants choisis parmi un groupe alkyle en C_{1-8}, qui peut être substitué par $-OR^{11}$ ou $-NR^{12}R^{13}$, un groupe aryle, un groupe aryle-(alkyle en C_{1-6},) et un groupe hétéroaryle), $-S(O)_{n1}R^{14}$ (n1 représentant un entier de 0 à 2), un groupe alcoxy en C_{1-6} (le groupe alcoxy pouvant être substitué par un ou plusieurs groupes choisi parmi un groupe aryle, un groupe hétéroaryle, $-OR^{11}$, $-NR^{12}R^{13}$, et un atome d'halogène), un groupe hétérocyclyle de 4 à 7 chaînons (le groupe hétérocyclyle pouvant être substitué par un ou plusieurs substituants choisis parmi un groupe alkyle en C_{1-8}, un groupe aryle, un groupe aryl-(alkyle en C_{1-6}), et un groupe hétéroaryle), un groupe aryloxy, un groupe hétéroaryloxy, et un groupe alkylènedioxy en C_{1-6} ;
dans lequel chacun de R^{11}, R^{12}, R^{13}, et R^{14} est indépendamment choisi parmi un atome d'hydrogène, un groupe alkyle r;n C_{1-8} (le groupe alkyle pouvant être substitué par un ou plusieurs substituants choisis parmi un groupe hydroxyle, un groupe alcoxy en C_{1-6}, un groupe aryl-(alcoxy en C_{1-6}), un groupe aryle, et un groupe hétéroaryle), un groupe aryle, et un groupe hétéroaryle ; ou R^{12} et R^{13}, conjointement avec l'azote auquel ils se lient, peuvent former un anneau hétérocyclique de 4 à 7 chaînons contenant au moins un atome d' azote ;
Z représente O, S, ou NRa, Ra représentant un atome d'hydrogène, un groupe alkyle en C_{1-8}, un groupe aryl-(alkyle en C_{1-6}), un groupe aryle, ou un groupe hétéroaryle ;
Cy représente un anneau hétérocyclique monocyclique de 4 à 7 chaînons ou un anneau hétérocyclique condensé de 8 à 10 chaînons, où le(s) atome(s) de carbone de l'anneau hétérocyclique peuvent être substitués par un ou plusieurs substituants choisis dans le Groupe Q1, et lorsque l'anneau hétérocyclique contient -NH-, l'atome d'azote peut être substitué par un substituant choisi dans le Groupe Q2 ;
dans lequel le Groupe Q1 consiste en un groupe alkyle en C_{1-8}, qui peut être substitué par un ou plusieurs substituants choisis dans le Groupe B, un groupe alcényle en C_{2-7}, qui peut être substitué par un ou plusieurs substituants choisis dans le Groupe B, un groupe hydroxyle, un groupe alcoxy en C_{1-6} (le groupe alcoxy pouvant être substitué par un ou plusieurs substituants choisis parmi un atome d'halogène, un groupe hydroxyle, un groupe alcoxy en C_{1-6}, un groupe amino, un groupe alkylamino en C_{1-6}, un groupe di(alkyle en C_{1-6})amino, un groupe aryle, et un groupe hétéroaryle), un groupe alkylcarbonyle en C_{1-6}, $-CONR^{21}R^{22}$, un groupe carboxy, un groupe alcoxycarbonyle en C_{1-6}, qui peut être substitué par un groupe aryle, un groupe aryloxy, un groupe hétéroaryloxy, un groupe amino, un groupe alkylamino en C_{1-6}, un groupe di(alkyle en C_{1-6})amino, un groupe

hétérocyclyle de 4 à 7 chaînons (le groupe hétérocyclyle pouvant être substitué par un ou deux substituants choisis parmi un groupe alkyle en C_{1-8}, un groupe aryle, un groupe aryl-(alkyle en C_{1-6}), et un groupe hétéroaryle), un groupe oxo, et un groupe thioxo ;

dans lequel chacun de R^{21} et R^{22} est indépendamment choisi parmi un atome d'hydrogène, un groupe alkyle en C_{1-8} (le groupe alkyle pouvant être substitué par un ou plusieurs substituants choisis parmi un atome d'halogène, un groupe hydroxyle, un groupe alcoxy en C_{1-6}, un groupe aryle, un groupe amino, un groupe alkylamino en C_{1-6}, et un groupe di(alkyle en C_{1-6})amino), un groupe aryle, et un groupe hétéroaryle ; ou

R^{21} et R^{22}, conjointement avec un atome d'azote auquel ils se lient, peuvent former un groupe hétérocyclyle de 4 à 7 chaînons contenant au moins un atome d'azote (le groupe hétérocyclyle pouvant être substitué par un ou plusieurs substituants choisis parmi un groupe hydroxyle, un groupe alkyle en C_{1-8} (le groupe alkyle pouvant être substitué par un ou plusieurs substituants choisis parmi un groupe hydroxyle, un groupe alcoxy en C_{1-8}, et un groupe aryle), un groupe aryle, et un groupe hétéroaryle) ;

dans lequel le Groupe Q2 consiste en un groupe alkyle en C_{1-8} (le groupe alkyle pouvant être substitué par un ou plusieurs substituants choisis parmi un atome d'halogène, un groupe hydroxyle, un groupe alcoxy en C_{1-6}, un groupe amino, un groupe alkylamino en C_{1-6}, un groupe di(alkyle en C_{1-6})amino, un groupe aryle, et un groupe hétéroaryle), un groupe alcoxycarbonyle en C_{1-6}, un groupe aryl-(alcoxycarbonyle en C_{1-6}), un groupe aryle, et un groupe hétéroaryle ;

dans lequel le Groupe B consiste en un atome d'halogène, un groupe aryle, un groupe hétéroaryle, un groupe oxo, un groupe alkylcarbonyle en C_{1-6}, un groupe alkylaminocarbonyle en C_{1-6}, un groupe di(alkyle en C_{1-6}) aminocarbonyle, un groupe alcoxycarbonyle en C_{1-6}, un groupe azido, $-OR^{31}$,$-NR^{32}$ R^{33}, et $-S(O)_{n2}R^{39}$ (n2 représentant un entier de 0 à 2) ;

dans lequel R^{31} est choisi parmi un atome d'hydrogène, $-PO(OR^{41})OR^{42}$, un groupe alkyle en C_{1-8} (le groupe alkyle pouvant être substitué par un ou plusieurs substituants choisis parmi un atome d'halogène, un groupe hydroxyle, un groupe alcoxy en C_{1-6}, qui peut être substitué par un groupe alcoxy en C_{1-6}, un groupe aryle, et $-NR^{34}R^{35}$), un groupe aryle, un groupe hétéroaryle, un groupe alkylcarbonyle en C_{1-6}, un groupe alcénylecarbonyle en C_{2-7}, un groupe cycloalkylcarbonyle en C_{3-8} (le groupe alkylcarbonyle en C_{1-6}, le groupe alcénylecarbonyle en C_{2-7} et le groupe cycloalkylcarbonyle en C_{3-8} pouvant être substitués par un ou plusieurs substituants choisis parmi un groupe hydroxyle, $-NR^{37}R^{38}$, un groupe aryle, qui peut être substitué par un groupe hydroxyle, un groupe hétéroaryle, un groupe mercapto, un groupe alkylthio en C_{1-6}, un groupe guanidyle, un groupe carboxy, un groupe alcoxycarbonyle en C_{1-6}, un groupe alkylcarbonyloxy en C_{1-6}, un groupe aryl-(alcoxy en C_{1-6}), un groupe aminocarbonyle, un groupe alkylaminocarbonyle en C_{1-6} et un groupe di(alkyle en C_{1-6}) aminocarbonyle (le groupe alkylaminocarbonyle en C_{1-6} et le groupe di(alkyle en C_{1-6})aminocarbonyle pouvant être substitués par un ou plusieurs substituants choisis parmi un groupe amino, un groupe alkylamino en C_{1-6}, et un groupe di(alkyle en C_{1-6})amino), et $-(OCHR^{74}CH_2)_1-OR^{73}$ (1 représentant un entier de 1 à 20)), un groupe arylcarbonyle, un groupe hétéroarylcarbonyle, un groupe hétérocyclyle carbonyle de 4 à 12 chaînons (le groupe arylcarbonyle, le groupe hétéroarylcarbonyle, et le groupe hétérocyclyle carbonyle pouvant être substitués par un ou plusieurs substituants choisis parmi un groupe hydroxyle, un groupe carboxy, un groupe alkyle en C_{1-6}, un groupe alcoxycarbonyle en C_{1-6}, un groupe alkylcarbonyle en C_{1-6} (le groupe alcoxycarbonyle en C_{1-6} et le groupe alkylcarbonyle en C_{1-6} pouvant être substitués par un ou plusieurs substituants choisis parmi un groupe hydroxyle, $-NR^{84}R^{85}$, et un groupe carboxy)), un groupe alcoxycarbonyle en C_{1-6} (le groupe alcoxycarbonyle en C_{1-6} pouvant être substitué par un ou plusieurs groupes hétérocyclyle de 4 à 12 chaînons), $-CON-R^{71}R^{72}$, $-CO(OCHR^{76}CH_2)_k-OR^{75}$ (k représentant un entier de 1 à 20), et $-S(O)_{n3}R^{81}$ (n3 représentant un entier de 1 ou 2)) ;

chacun de R^{32}, R^{33}, R^{34}, R^{35}, R^{37}, R^{38}, R^{71}, $R^{72,}$ R^{84}, et R^{85} est indépendamment choisi parmi un atome d'hydrogène, un groupe alkyle en C_{1-8} (le groupe alkyle pouvant être substitué par un ou plusieurs substituants choisis parmi un atome d'halogène, un groupe hydroxyle, un groupe alcoxy en C_{1-6}, $-(OCH_2CH_2)_m-OH$ (m représentant un entier de 1 à 20), un groupe alcoxycarbonyle en C_{1-6}, un groupe aryle, un groupe amino, un groupe alkylamino en C_{1-6}, et un groupe di(alkyle en C_{1-6})amino), $-S(O)_{n4}R^{83}$ (n4 représentant un entier de 1 ou 2), un groupe alkylcarbonyle en C_{1-6} (le groupe alkylcarbonyle en C_{1-6} pouvant être substitué par un ou plusieurs substituants choisis parmi un groupe amino, un groupe alkylamino en C_{1-6}, un groupe di(alkyle en C_{1-6})amino, un groupe aminocarbonyle, un groupe aryle, qui peut être substitué par un groupe hydroxyle, un groupe hétéroaryle, un groupe hydroxyle, un groupe mercapto, un groupe alkylthio en C_{1-6}, un groupe guanidyle, et un groupe carboxy), un groupe alkylaminocarbonyle en C_{1-6}, un groupe alcoxycarbonyle en C_{1-6}, un groupe hétérocyclyle carbonyle de 4 à 7 chaînons, un groupe aryle, et un groupe hétéroaryle ; ou

R^{32} et R^{33}, R^{34} et R^{35}, R^{37} et R^{38}, et R^{84} et R^{85}, conjointement avec un atome d'azote auquel ils se lient, peuvent former un groupe hétérocyclyle de 4 à 7 chaînons contenant au moins un atome d'azote (le groupe hétérocyclyle pouvant être substitué par un ou plusieurs substituants choisis parmi un groupe hydroxyle, un groupe alkyle en C_{1-8} (le groupe alkyle pouvant être substitué par un ou plusieurs substituants choisis parmi

un groupe hydroxyle, un groupe alcoxy en C_{1-8}, et un groupe aryle), un groupe alcoxy en C_{1-8} (le groupe alcoxy pouvant être substitué par un ou plusieurs substituants choisis parmi un groupe hydroxyle, un groupe alcoxy en C_{1-8}, et un groupe aryle), un groupe aryle, et un groupe hétéroaryle) ;
chacun de R^{39} et R^{83} est indépendamment choisi parmi un atome d'hydrogène, un groupe alkyle en C_{1-8} (le groupe alkyle pouvant être substitué par un ou plusieurs substituants choisis parmi un groupe hydroxyle, un groupe alcoxy en C_{1-6}, un groupe aryl-(alcoxy en C_{1-6}), un groupe aryle, et un groupe hétéroaryle), un groupe alcényle en C_{2-8}, un groupe cycloalkyle en C_{3-6}, un groupe aryle, et un groupe hétéroaryle ;
chacun de R^{41} et R^{42} est indépendamment choisi parmi un atome d'hydrogène, un groupe aryl-(alkyle en C_{1-6}), et un groupe alkyle en C_{1-8} ;
chacun de R^{73} et R^{75} est indépendamment choisi parmi un atome d'hydrogène, un groupe alkyle en C_{1-6}, qui peut être substitué par un ou plusieurs groupes hydroxyle, et un groupe aryl-(alkyle en C_{1-6}) ;
chaque occurrence de R^{74} et R^{76} est indépendamment choisie parmi un atome d'hydrogène, un groupe alkyle en C_{1-6}, un groupe alkyle en C_{1-6}, qui est substitué par un/des groupe(s) hydroxyle, et $-CH_2(OCH_2CH_2)_i-OR^{80}$ (i représentant un entier de 1 à 20) ;
R^{80} est choisi parmi un atome d'hydrogène, un groupe aryl-(alkyle en C_{1-6}), et un groupe alkyle en C_{1-6}, qui peut être substitué par un ou plusieurs groupes hydroxyle ; et
R^{81} représente un groupe alkyle en C_{1-6},

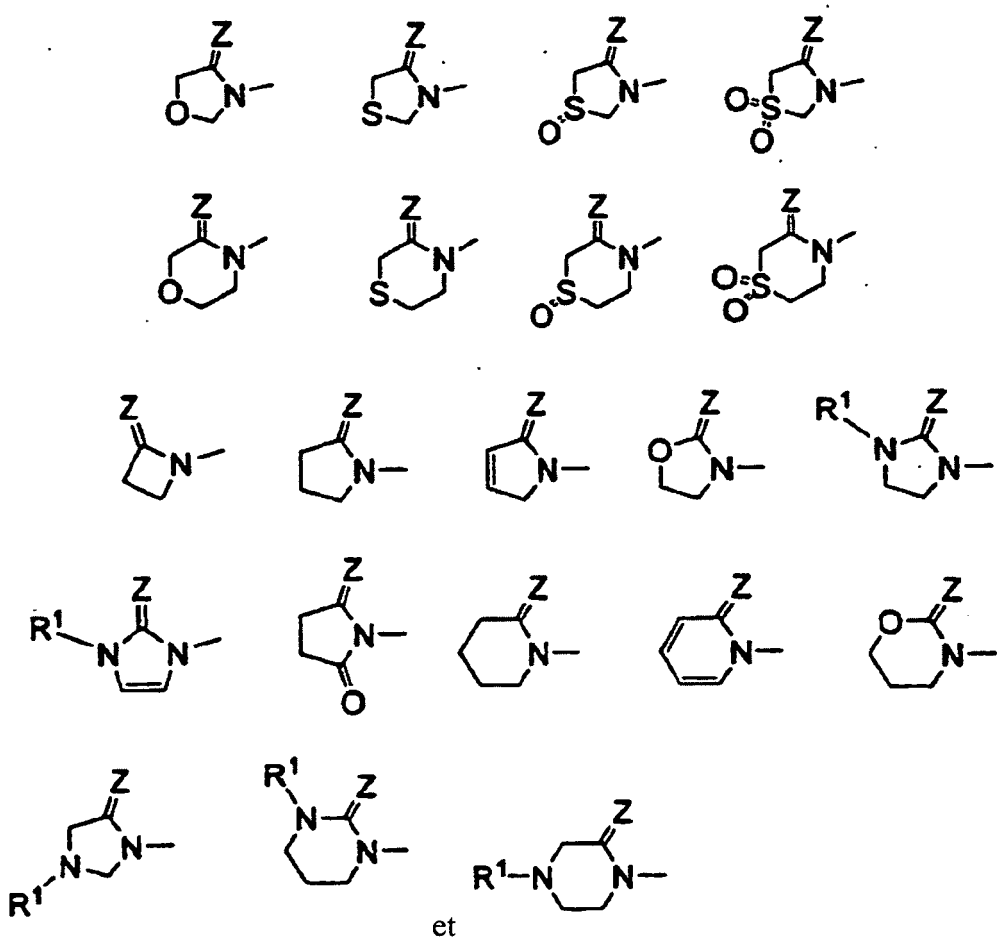
ou un sel pharmaceutiquement acceptable de celui-ci ; dans lequel le terme « groupe alkyle en C_{1-8} » désigne un groupe alkyle linéaire ou ramifié contenant 1 à 8 atomes de carbone, ou un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 8 atomes de carbone ; le terme « groupe alcoxy en C_{1-6} » désigne un groupe alkyloxy ayant un groupe alkyle linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone, en tant que parties alkyle de celui-ci ; le terme « groupe halo-(alkyle en C_{1-6}) » désigne un groupe alkyle substitué par un ou plusieurs atomes d'halogène, qui a, en tant que parties alkyle de celui-ci, un groupe alkyle linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone ; le terme « groupe halo-(alcoxy en C_{1-6}) » désigne un groupe alcoxy substitué par un ou plusieurs atomes d'halogène, qui a, en tant que parties alkyle de celui-ci, un groupe alkyle linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone ; le terme « groupe alkylamino en C_{1-6} » désigne un groupe alkylamino ayant, en tant que parties alkyle de celui-ci, un groupe alkyle linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone ; le terme « groupe di(alkyle en C_{1-6})amino » désigne un groupe dialkylamino ayant, en tant que deux parties alkyle, un groupe alkyle linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone, les deux parties alkyle pouvant être identiques ou différentes l'une de l'autre ; le terme « groupe alkylcarbonyle en C_{1-6}» désigne un groupe alkylcarbonyle ayant, en tant que parties alkyle de celui-ci, un groupe alkyle linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone ; le terme « groupe alkylcarbonylamino en C_{1-6} » désigne un groupe alkylcarbonylamino ayant, en tant que parties alkyle de celui-ci, un groupe alkyle linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone ; le terme « groupe alkylcarbonyloxy en C_{1-6} » désigne un groupe alkylcarbonyloxy ayant, en tant que parties alkyle de celui-ci, un groupe alkyle linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone ; le terme « groupe alcoxycarbonyle en C_{1-6} » désigne un groupe alcoxycarbonyle ayant, en tant que parties alcoxy de celui-ci, un groupe alcoxy linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alcoxy cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone ; le terme « groupe alkylaminocarbonyle en C_{1-6} » désigne un groupe alkylaminocarbonyle ayant, en tant que parties alkyle de celui-ci, un groupe alkyle linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone ; le terme « groupe di(alkyle en C_{1-6})aminocarbonyle » désigne un groupe dialkylaminocarbonyle ayant, en tant que deux parties alkyle de celui-ci, un groupe alkyle linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone, qui peuvent être soit identiques soit différents l'un de l'autre ; le terme « groupe amino-(alcoxycarbonyle en C_{1-6}) » désigne un groupe aminoalcoxycarbonyle ayant, en tant que parties alcoxy de celui-ci, un groupe alcoxy linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alcoxy cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone ; le terme « hydroxy-(groupe alkyle en C_{1-6}) » désigne un groupe hydroxyalkyle ayant, en tant que parties alkyle de celui-ci, un groupe alkyle linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone ; le terme « groupe alkylthio en C_{1-6} » désigne un groupe alkylthio, qui a, en tant que parties alkyle de celui-ci, un groupe alkyle linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone ; le terme « groupe aryl-(alkyle

en C_{1-6}) » désigne un groupe aralkyle, qui a, en tant que groupe aryle de celui-ci, le groupe hydrocarboné aromatique défini contenant 6 à 10 atomes de carbone, et en tant que parties alkyle de celui-ci, un groupe alkyle linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alkyle cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone ; le terme « groupe aryl-(alcoxy en C_{1-6}) » désigne un groupe aralkyloxy, qui a, en tant que groupe aryle de celui-ci, le groupe hydrocarboné aromatique défini contenant 6 à 10 atomes de carbone, et en tant que parties alcoxy de celui-ci, un groupe alcoxy linéaire ou ramifié contenant 1 à 6 atomes de carbone, et un groupe alcoxy cyclique ou partiellement cyclique contenant 3 à 6 atomes de carbone.

2. Composé, ou sel pharmaceutiquement acceptable de celui-ci selon la revendication 1,
dans lequel le(s) atome(s) de carbone de Cy sont substitués par un ou deux groupes choisis parmi un groupe hydroxyle, et les groupes $-C(=O)-OR^{50}$, $-CR^{51}R^{52}-OR^{53}$, $-CR^zR^qCR^{51}R^{52}-OR^{53}$, $-C(=O)-NR^{54}R^{55}$, et $-CR^{51}R^{52}-NR^{56}R^{57}$;
R^{50} représente un atome d'hydrogène ou un groupe alkyle en C_{1-6} (le groupe alkyle pouvant être substitué par un groupe hydroxyle ou un groupe alcoxy en C_{1-6}) ;
chacun de R^{51} et R^{52} est indépendamment choisi parmi un atome d'hydrogène, un groupe alkyle en C_{1-3} (le groupe alkyle pouvant être substitué par un ou plusieurs substituants choisis parmi un groupe hydroxyle et un groupe amino), et un groupe alcényle en C_{2-3} ;
chacun de R^z et R^q est indépendamment choisi parmi un atome d'hydrogène et un groupe alkyle en C_{1-3} ;
R^{53} représente un atome d'hydrogène, un groupe alkyle en C_{1-6} (le groupe alkyle pouvant être substitué par 1 à 3 substituants choisis parmi un groupe aryle, un groupe hydroxyle, un groupe alcoxy en C_{1-6}, un groupe (alcoxy en C_{1-6})-(alcoxy en C_{1-6}), et $-NR^xR^y$), un groupe alkylecarbonyle en C_{1-6} (le groupe alkylcarbonyle pouvant être substitué par 1 à 3 substituants choisis parmi un groupe hydroxyle, un groupe alcoxy en C_{1-3}, un groupe aryle, $-NR^{61}R^{62}$, un groupe carboxy, $-CONR^{63}R^{64}$, et $-(OCHR^{74}CH_2)_1-OR^{73}$ (R^{73}, R^{74}, et 1 étant identiques à ceux définis dans la revendication 1)), un groupe arylcarbonyle ou un groupe carbonyle hétérocyclyle de 4 à 7 chaînons (le groupe arylcarbonyle et le groupe hétérocyclyle carbonyle pouvant être substitués par un ou plusieurs substituants choisis parmi un groupe carboxy, un groupe alcoxycarbonyle en C_{1-6}, et un groupe alkylecarbonyle en C_{1-6} (le groupe alcoxycarbonyle en C_{1-6} et le groupe alkylecarbonyle en C_{1-6} pouvant être substitués par un ou plusieurs substituants choisis parmi $-NR^{61}R^{62}$, un groupe carboxy, et un groupe hydroxyle)), ou $-CO(OCHR^{76}CH_2)_k-OR^{75}$ (R^{75}, R^{76}, et k étant identiques à ceux définis dans la revendication 1),
chacun de R^{54} et R^{55} est indépendamment choisi parmi un atome d'hydrogène et un groupe alkyle en C_{1-6} (le groupe alkyle pouvant être substitué par un groupe hydroxyle ou un groupe amino) ; ou R^{54} et R^{55}, conjointement avec un atome d'azote auquel ils se lient, peuvent former un anneau hétérocyclique de 4 à 7 chaînons (l'anneau hétérocyclique pouvant être substitué par 1 à 3 substituants choisis parmi un groupe hydroxyle et un groupe hydroxy-(alkyle en C_{1-6})) ;
chacun de R^{56} et R^{57} est indépendamment choisi parmi un atome d'hydrogène, un groupe alkyle en C_{1-6} (le groupe alkyle pouvant être substitué par un groupe hydroxyle ou un groupe amino), et un groupe alkylsulfonyle en C_{1-6} (le groupe alkylsulfonyle pouvant être substitué par un groupe hydroxyle ou un groupe amino) ; ou R^{56} et R^{57}, conjointement avec un atome d'azote auquel ils se lient, peuvent former un anneau hétérocyclique de 4 à 7 chaînons (le cycle hétérocyclique pouvant être substitué par 1 à 3 substituants choisis parmi un groupe hydroxyle et un groupe hydroxy-(alkyle en C_{1-6})) ;
chacun de R^{61} et R^{62} est indépendamment choisi parmi un atome d'hydrogène, un groupe alkyle en C_{1-6}, et un groupe alkylecarbonyle en C_{1-6} (le groupe alkylcarbonyle pouvant être substitué par 1 à 3 substituants choisis parmi un groupe hydroxyle, un groupe alcoxy en C_{1-3}, un groupe aryle, un groupe amino, un groupe alkylamino en C_{1-6}, un groupe di(alkyle en C_{1-6})amino, et un groupe carboxy) ; ou R^{61} et R^{62}, conjointement avec un atome d'azote auquel ils se lient, peuvent former un anneau hétérocyclique de 4 à 7 chaînons ;
chacun de R^x et R^y est indépendamment choisi parmi un atome d'hydrogène et un groupe alkyle en C_{1-6}, et
chacun de R^{63} et R^{64} est indépendamment choisi parmi un atome d'hydrogène et un groupe alkyle en C_{1-6} (le groupe alkyle pouvant être substitué par un groupe hydroxyle ou un groupe amino) ; ou R^x et R^y, ou R^{63} et R^{64}, conjointement avec un atome d'azote auquel ils se lient, peuvent former un anneau hétérocyclique de 4 à 7 chaînons.

3. Composé ou sel pharmaceutiquement acceptable de celui-ci selon la revendication 1 ou 2,
dans lequel Cy représente un cycle hétérocyclique choisi dans le groupe suivant :

[Formule 2]

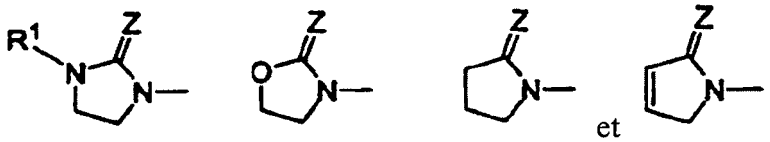


et

dans lequel le(s) atome(s) de carbone de l'anneau hétérocyclique peuvent être substitués par un ou plusieurs substituants choisis dans le Groupe Q1 ; et
R^1 représente un atome d'hydrogène, un groupe alkyle en C_{1-8} (le groupe alkyle pouvant être substitué par un ou plusieurs substituants choisis parmi un atome d'halogène, un groupe hydroxyle, un groupe alcoxy en C_{1-6}, un groupe amino, un groupe alkylamino en C_{1-6}, un groupe di(alkyle en C_{1-6})amino, un groupe aryle, et un groupe hétéroaryle), un groupe alcoxycarbonyle en C_{1-6}, un groupe aryl-(alcoxycarbonyle en C_{1-6}), un groupe aryle, ou un groupe hétéroaryle.

4. Composé ou sel pharmaceutiquement acceptable de celui-ci selon la revendication 3, dans lequel Cy représente un anneau hétérocyclique choisi dans le groupe suivant :

[Formule 3]



et

5. Composé ou sel pharmaceutiquement acceptable de celui-ci selon l'une quelconque des revendications 1 à 4, dans lequel X représente un groupe aryle, le groupe aryle pouvant être substitué par un ou plusieurs substituants choisis dans le Groupe A1 ;
dans lequel le Groupe A1 consiste en un groupe alkyle en C_{1-8} (le groupe alkyle pouvant être substitué par un ou plusieurs substituants choisis parmi un atome d'halogène et $-NR^{12}R^{13}$), un atome d'halogène, un groupe hydroxyle,

un groupe aryle, un groupe amino (l'atome d'azote du groupe amino pouvant être substitué par un ou deux substituants choisis parmi un groupe alkyle en C_{1-8} et un groupe aryle), $-SR^{14}$, un groupe alcoxy en C_{1-6} (le groupe alcoxy pouvant être substitué par un ou plusieurs substituants choisis parmi $-OR^{11}$ et un atome d'halogène), et un groupe hétérocyclyle de 4 à 7 chaînons (le groupe hétérocyclyle pouvant être substitué par un ou deux substituants choisis parmi des groupes alkyle en C_{1-8}) ;
dans lequel chacun de R^{11}, R^{12}, R^{13}, et R^{14} est indépendamment choisi parmi un atome d'hydrogène, un groupe alkyle en C_{1-8}, et un groupe aryle ; ou R^{12} et R^{13}, conjointement avec l'azote auquel ils se lient, peuvent former un anneau hétérocyclique de 4 à 7 chaînons contenant au moins un atome d'azote.

6. Composé ou sel pharmaceutiquement acceptable de celui-ci selon l'une quelconque des revendications 1 à 5, dans lequel Z représente O.

7. Composé ou sel pharmaceutiquement acceptable de celui-ci selon l'une quelconque des revendications 1 à 6, dans-lequel le(s) substituant(s) sur le(s) atome(s) de carbone cyclique(s) de Cy sont choisis parmi un groupe hydroxyle, un groupe alkyle en C_{1-8} (le groupe alkyle pouvant être substitué par un ou plusieurs substituants choisis parmi un groupe hydroxyle, un groupe alkylamino en C_{1-6}, un groupe di(alkyle en C_{1-6})amino, un groupe hétérocyclyle de 4 à 7 chaînons contenant au moins un atome d'azote (le groupe hétérocyclyle pouvant être substitué par un groupe hydroxyle, ou un groupe alkyle en C_{1-6}, qui peut être substitué par un groupe hydroxyle), un groupe alkylcarbonyloxy en C_{1-6} (le groupe alkylcarbonyloxy en C_{1-6} pouvant être substitué par un ou deux substituants choisis parmi un groupe hydroxyle et $-(OCH_2CH_2)_l-OR^{73}$ (R^{73} et 1 étant identiques à ceux définis dans la revendication 1)), $-OCO(OCHR^{76}CH_2)_k-OR^{75}$ (R^{75}, R^{76}, et k étant identiques à ceux définis dans la revendication 1)), et $-CONR^{91}R^{92}$; dans lequel chacun de R^{91} et R^{92} est choisi parmi un atome d'hydrogène et un groupe alkyle en C_{1-6} ; ou R^{91} et R^{92}, conjointement avec l'azote auquel ils se lient, peuvent former un anneau hétérocyclique de 4 à 7 chaînons contenant au moins un atome d'azote (l'anneau hétérocyclique pouvant être substitué par un groupe hydroxyle).

8. Composé ou sel pharmaceutiquement acceptable de celui-ci selon l'une quelconque des revendications 1 à 7, dans lequel le(s) substituant(s) sur le(s) atome(s) de carbone cyclique(s) de Cy sont choisis parmi un groupe hydroxyle, un groupe hydroxyméthyle, et un groupe 1-hydroxy-1-méthyléthyle.

9. Composé ou sel pharmaceutiquement acceptable de celui-ci selon l'une quelconque des revendications 1 à 7, dans lequel le(s) substituant(s) sur le(s) atome(s) de carbone cyclique(s) de Cy sont $-CH_2-OCOCH_2-(OCH_2CH_2)_l-OR^{73}$ (R^{73} et 1 étant identiques à ceux définis dans la revendication 1), un groupe propionyloxyméthyle, qui est substitué par un ou deux groupes hydroxyle, ou $-CH_2-OCO(OCHR76CH_2)_k-OR75$ (R^{75}, R^{76}, et k étant identiques à ceux définis dans la revendication 1).

10. Composé ou sel pharmaceutiquement acceptable de celui-ci selon l'une quelconque des revendications 1 à 7, dans lequel un substituant sur l'atome d'azote cyclique de Cy est choisi parmi des groupes alkyle en C_{1-8} (le groupe alkyle pouvant être substitué par un groupe hydroxyle).

11. Composé ou sel pharmaceutiquement acceptable de celui-ci selon l'une quelconque des revendications 1 à 10, dans lequel X représente un groupe aryle, le groupe aryle pouvant être substitué par un ou plusieurs substituants choisis parmi un atome d'halogène, un groupe alkyle en C_{1-6}, un groupe halo-(alkyle en C_{1-6}), un groupe alcoxy en C_{1-6}, un groupe halo-(alcoxy en C_{1-6}), un groupe aryle, et un groupe hétérocyclyle de 4 à 7 chaînons.

12. Composé ou sel pharmaceutiquement acceptable de celui-ci selon l'une quelconque des revendications 1 à 11, dans lequel X représente un groupe aryle, le groupe aryle pouvant être substitué par un groupe éthyle, un groupe trifluorométhyle, un groupe trifluorométhoxy, un groupe éthoxy, un groupe propoxy, un groupe phényle, ou un groupe morpholinyle.

13. Composé ou sel pharmaceutiquement acceptable de celui-ci selon la revendication 1, ledit composé étant choisi parmi :

7-(2-oxoazétidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(2-oxopipéridine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(2-oxo-2H-pyridine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-4-hydroxy-2-oxopyrrolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((S)-4-hydroxy-2-oxopyrrolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(4-méthoxy-2-oxo-2,5-dihydropyrrole-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,

7-((S)-2-hydroxyméthyle-5-oxopyrrolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(4-benzyloxy-2-oxo-2,5-dihydropyrrole-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[3-(2-hydroxyéthyle)-2-oxoimidazolidne-1-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-4-hydroxyméthyle-2-oxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
benzoate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-4-yl-méthyle,
7-(5-chlorométhyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((S)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(2-oxopyrrolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-2-hydroxyméthyle-5-oxopyrrolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(2-oxooxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(3-méthyle-2-oxo-2,3-dihydroimidazol-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-morpholine-4-ylphényle)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-méthoxyphényle)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-o-tolyl-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhoxyphényle)-2H-isoquinoléine-1-one,
3-biphényle-2-yl-7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
3-(2-éthylphényle)-7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
3-(2,6-diméthoxyphényle)-7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
3-(2-fluorophényle)-7-((S)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
7-((S)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhoxyphényle)-2H-isoquinoléine-1-one,
7-((S)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-morpholine-4-ylphényle)-2H-isoquinoléine-1-one,
7-[5-(2-hydroxyéthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(5-azidométhyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(5-aminométhyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
N-{2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle}acétamide,
7-(5-morpholine-4-ylméthyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[5-(4-hydroxypipéridine-1-ylméthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-4-benzyloxyméthyle-3-méthyle-2-oxoimidazolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-4-hydroxyméthyle-3-méthyle-2-oxoimidazolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
3-(2-éthylphényle)-7-((S)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
7-[(S)-5-(2-hydroxyéthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(S)-5-((R)-1,2-dihydroxyéthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
3-{2-[2-(2-benzyloxyéthoxy)éthoxy]phényle}-7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
3-{2-[2-(2-hydroxyéthoxy)éthoxy]phényle}-7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
3-{2-[2-(2-hydroxyéthoxy)éthoxy]phényle}-7-((S)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
3-(2,6-bistrifluorométhylphényle)-7-((R)-S-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
7-[5-(2-hydroxy-1-hydroxyméthyléthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
2-oxo-1-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]pyrrolidine-3-carboxylate d'éthyle,
7-(3-hydroxyméthyle-2-oxopyrrolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-isobutylphényle)-2H-isoquinoléine-1-one,
3-(2-allylphényle)-7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
7-(2-oxo-[1,3]oxazinan-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(4-hydroxy-2-oxo-2,5-dihydropyrrole-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
1-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]pyrrolidine-2,5-dione,
2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-carboxylate d'éthyle,
2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-carboxylate de méthyle,

7-[5-(1-hydroxy-1-méthyléthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
acide 2-oxo,-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-carboxylique,
amide d'acide 2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-carboxylique,
méthylamide d'acide 2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-carboxylique,
diméthylamide d'acide 2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-carboxylique,
(2-hydroxyéthyl)amide d'acide 2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-carboxylique,
7-[5-(morpholine-4-carbonyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[5-(4-hydroxypipéridine-1-carbonyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(S)-5-(1-hydroxy-1-méthyléthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(R)-5-(1-hydroxy-1-méthyléthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
Amide d'acide (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-carboxylique,
Amide d'acide (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-carboxylique,
7-[(S)-5-(4-hydroxypipéridine-1-carbonyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(R)-5-(4-hydroxypipéridine-1-carbonyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(R)-5-(2-méthoxyéthoxyméthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-5-méthoxyméthyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-{(R)-5-[2-(2-méthoxyéthoxy)éthoxyméthyle]-2-oxooxazolidine-3-yl}-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(R)-5-(2-morpholine-4-yléthoxyméthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-5-benzyloxyméthyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((S)-2-oxo-5-pipéridine-1-ylméthyloxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(S)-5-((S)-2-hydroxyméthylpyrrolidin-1-ylméthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(S)-5-((S)-3-hydroxypipéridine-1-ylméthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(S)-5-((R)-3-hydroxypipéridine-1-ylméthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(S)-5-((R)-2-hydroxyméthylpyrrolidin-1-ylméthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(S)-5-(4-hydroxyméthylpipéridine-1-ylméthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(S)-5-(4-méthoxypipéridine-1-ylméthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((S)-5-morpholine-4-ylméthyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(S)-(4-hydroxypipéridine-1-ylméthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
N-{(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle}méthanesulfonamide,
amide d'acide éthanesulfonique {(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle},
amide d'acide propane-1-sulfonique {(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle},
amide d'acide propane-2-sulfonique {(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle},
amide d'acide pentane-1-sulfonique {(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléi-

ne-7-yl]oxazolidine-5-ylméthyle},
benzènesulfonamide N-{(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle},
amide d'acide éthènesulfonique {(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle},
amide d'acide 2-hydroxyéthanesulfonique {(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle}},
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-propylphényle)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-[2-(2-méthylallyl)phényle]-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-propoxyphényle)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-[2-(2-méthoxyéthoxy)phényle]-2H-isoquinoléine-1-one,
3-(2-éthoxyphényle)-7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
3-[2-(2,3-dihydroxy-2-méthylpropyl)phényle]-7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-[2-(2-hydroxypropyl)phényle]-2H-isoquinoléine-1-one,
3-(1-éthyl-1H-benzimidazol-2-yl)-7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-méthylsulfanylphényle)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-méthanesulfonylphényle)-2H-isoquinoléine-1-one,
7-(4-hydroxy-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(S)-5-((S)-1,2-dihydroxyéthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
amide d'acide cyclopropanesulfonique {(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle},
7-(4-hydroxyméthyle-2-oxopyrrolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((S)-3-hydroxy-2-oxopyrrolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
diméthylamide d'acide 2-oxo-1-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]pyrrolidine-3-carboxylique,
7-(3-morpholine-4-ylméthyle-2-oxopyrrolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(2-oxo-3-pipéridine-1-ylméthylpyrrolidin-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[3-(4-hydroxypipéridine-1-ylméthyle)-2-oxopyrrolidine-1-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((3R,4R)-3,4-dihydroxy-2-oxopyrrolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(5-hydroxyméthyle)-3-méthyle-2-oxoimidazolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-4-benzyloxyméthyle-2-oxoimidazolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-4-hydroxyméthyle-2-oxoimidazolidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(3-méthyle-2-oxotétrahydropyrimidine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
benzyle 3-oxo-4-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]pipérazine-1-carboxylate,
7-(2-oxopipérazine-1-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(R)-5-((S)-1,2-dihydroxyéthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(R)-5-((R)-1,2-dihydroxyéthyle)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-(5,5-bishydroxyméthyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[3-(2-hydroxyéthyle)-5-oxoimidazolidine-1-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(3-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-naphtalén-1-yl-2H-isoquinoléine-1-one,
3-furane-2-yl-7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-thiophén-2-yl-2H-isoquinoléine-1-one,
7-((S)-5-diméthylaminométhyle-2-oxooxazolidine-3-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-[(S)-5-(1-hydroxy-1-vinylallyl)-2-oxooxazolidine-3-yl]-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(4-trifluorométhylphényle)-2H-isoquinoléine-1-one,
7-((R)-5-hydroxyméthyle-2-oxooxazolidine-3-yl)-3-(3-méthylthiophén-2-yl)-2H-isoquinoléine-1-one,
7-(3-oxomorpholine-4-yl)-3-(2-trifluorométhylphényle)-2H-isoquinoléine-1-one, méthylaminoacétate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
aminoacétate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(S)-2-aminopropionate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxa-

zolidine-5-ylméthyle,
(S)-pyrrolidine-2-carboxylate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl] oxazolidine-5-ylméthyle,
(S)-2-aminobutanoate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(S)-2-aminopentanoate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylinéthyle,
(S)-2-amino-4-méthyle-pentanoate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(2S, 3S)-2-amino-3-méthylpentanoate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(S)-2-amino-3-méthyle-butanoate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(S)-2-aminohexanoate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
diméthylaminoacétate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-yhnéthyle,
3-aminopropionate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(S)-2-amino-3-phénylpropionate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
4-aminobutanoate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
3-méthylaminopropionate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl] oxazolidine-5-ylméthyle,
3-diméthylaminopropionate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl] oxazolidine-5-ylméthyle,
acide 3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthoxycarbonyle}propionique,
acide 2-((R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthoxycarbonyle}benzoïque,
2-aminoéthylsuccinamate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl] oxazolidine-5-ylméthyle,
méthylaminoacétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
diméthylaminoacétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(S)-2-amino-3-méthylbutyrate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
2-amino-2-méthylpropionate de (R)-2-oxo-3-[1-oxo-3-trifluorométhylphényle]-1,2-dihydroisoquinoléine-7-yl]-oxazolidine-5-ylméthyle,
2-méthyle-2-(méthylamino) propionate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
1-amino-cyclopentanecarboxylate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
ester de dibenzyle phosphoate (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]-oxazolidine-5-ylméthyle,
acide 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthoxycarbonyle}propionique,
acide 2-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthoxycarbonyle}benzoïque,
acide 3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthoxycarbonyle}butanoïque,
acide (Z)-3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthoxycarbonyle}acrylique,
acide 2-(1-méthyle-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-yléthoxycarbonyle}propionique,
acide 2-(1-méthyle-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidi-

ne-5-yléthoxycarbonyle}benzoïque,
(S)-2-aminosuccinate de 1-{(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]-oxazolidine-5-ylméthyle},
(S)-2-amino-3-hydroxypropionate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(2S, 3R)-2-amino-3-hydroxybutanoate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
acide (Z)-3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthoxycarbonyle}acrylique,
acide 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthoxycarbonyle}butanoïque,
acide 2-(1-méthyle-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-yléthoxycarbonyle}butanoïque,
acide 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthoxycarbonyle}-(S)-2-hydroxypropionique,
acide 3-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthoxycarbonyle}éthanoïque,
(R)-2,3-dihydroxypropionate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
3-hydroxy-2-hydroxyméthyle-2-méthylpropionate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
3-hydroxy-2,2-bishydroxyméthylpropionate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(2-aminoacétyle)méthylaminoacétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
2-aminoacétylaminoacétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(S)-2-[(S)-2-amino-3-(1H-indol-3-yl)-propionylamino]-pentanedioate de 5-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle},
[2-(2-hydroxyéthoxy)éthyle]carbamate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(2,3-dihydroxypropyl)carbamate de (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(2,3-dihydroxypropyl)carbamate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle;
(2-hydroxy-1-hydroxyméthyléthyle)carbamate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
[(2R,3S)-2,3,4-trihydroxybutyl]carbamate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
[(2S,3R,4R,5R)-2,3,4,5,6-pentahydroxyhexyl]carbamate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
acétate d'éthyle {(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthoxycarbonylamino},
ester de carbonate d'éthyle (R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
nicotinate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
acétoxyacétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(2-méthoxyéthoxy)acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
[2-(2-méthoxyéthoxy)éthoxy]acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
[2-(2-{2-[2-(2-méthoxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
{2-[2-(2-méthoxyéthoxy)éthoxy]éthoxy}acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(2-{2-[2-(2-méthoxyéthoxy)éthoxy]éthoxy}éthoxy)acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-

1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
{2-[2-(2-{2-[2-(2-méthoxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}-acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
[2-(2-hydroxyéthoxy)éthoxy]acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
{2-[2-(2-hydroxyéthoxy)éthoxy]éthoxy}acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
[2-(2-{2-[2-(2-hydroxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
{2-[2-(2-{2-[2-(2-hydroxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-[2-(2-méthoxy-1-méthyléthoxy)-1-méthyléthoxy]-1-méthyléthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-(2-hydroxyéthoxy)éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-[2-(2-hydroxyéthoxy)éthoxy]éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-{2-[2-(2-hydroxyéthoxy)éthoxy]-éthoxy}éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-[2-(2-{2-[2-(2-hydroxyéthoxy)éthoxy]-éthoxy} éthoxy)-éthoxy]éthyle,
ester 1,4,7,10-tétraoxacyclododéc-2-ylméthyle de carbonate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl] oxazolidine-5-ylméthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-(2-hydroxy-1-hydroxyméthyléthoxy)éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyéthoxy)-éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-{2-[2-(2-{2-[2-(2-{2-[2-(2-méthoxyéthoxy)-éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-[2-(2-hydroxyéthoxy)éthoxy]-1-[2-(2-hydroxyéthoxy)éthoxyméthyle]éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-[2-(2-hydroxyéthoxy)éthoxy]-1-{2-[2-(2-hydroxyéthoxy)éthoxy]-1-[2-(2-hydroxyéthoxy)éthoxyméthyle]éthoxyméthyle} éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-(2-hydroxyéthoxy)-1-(2-hydroxyéthoxyméthyle)éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-{2-[2-(2-hydroxyéthoxy)éthoxy]éthoxy}-1-{2-[2-(2-hydroxyéthoxy)éthoxy]éthoxyméthyle}éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-{2-[2-(2-{2-[2-(2-hydroxyéthoxy)éthoxy]-éthoxy}éthoxy)éthoxy]éthoxy}éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-(2-{2-[2-(2-{2-[2-(2-hydroxyéthoxy)-éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyéthoxy)-éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle d'acide (2-{2-[2-(2-{2-[2-(2-{2-[2-(2-méthoxyéthoxy)éthoxy]-éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)acétique,
aminoacétate de 1-méthyle-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-yl} éthyle,
méthylaminoacétate de 1-méthyle-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-yl)éthyle,
diméthylaminoacétate de 1-méthyle-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-yl}éthyle,
4-aminobutanoate de 1-méthyle-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-yl}éthyle,

(S)-2-aminopropionate de 1-méthyle-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-yl}éthyle,
(S)-2-amino-3-méthylbutanoate de 1-méthyle-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-yl}éthyle,
(S)-pyrrolidine-2-carboxylate de 1-méthyle-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-yl}éthyle,
[(2-aminoacétyle)méthylamino]acétate de 1-méthyle-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-S-yl}éthyle,
(S)-1-(2-aminoacétyle)pyrrolidine-2-carboxylate de 1-méthyle-1-{(S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-yl}éthyle,
acide (E)-3-{(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthoxycarbonyle}acrylique,
(S)-2-aminopentanedionate de 1-{(R)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle},
(2S,3R,4S,5R)-3,4,5,6-tétrahydroxytétrahydropyrane-2-carboxylate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle d'acide (2-{2-[2-(2-{2-[2-(2-méthoxyéthoxy)éthoxy]éthoxy}-éthoxy)éthoxy]éthoxy}éthoxy)acétique,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle d'acide [2-(2-{2-[2-(2-{2-[2-(2-méthoxyéthoxy)éthoxy]-éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthoxy]acétique,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle d'acide {2-[2-(2-{2-[2-(2-{2-[2-(2-méthoxyéthoxy)éthoxy]-éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)-éthoxy]éthoxy}acétique,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle d'acide [2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-méthoxyéthoxy)-éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthoxy]acétique,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle d'acide {2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-méthoxyéthoxy)-éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthoxy]-éthoxy}acétique,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-méthoxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)-éthoxy]éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-méthoxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthoxy}-éthoxy)éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-[2-(2-{2-[2-(2-{2-[2-(2-méthoxyéthoxy)-éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-(2-{2-[2-(2-{2-[2-(2-méthoxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy)éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-{2-[2-(2-{2-[2-(2-méthoxyéthoxy)éthoxy]-éthoxy}éthoxy)éthoxy]éthoxy}éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-[2-(2-{2-[2-(2-méthoxyéthoxy)éthoxy]-éthoxy}éthoxy)éthoxy]éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-(2-{2-[2-(2-méthoxyéthoxy)éthoxy]éthoxy}-éthoxy)éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-{2-[2-(2-méthoxyéthoxy)éthoxy]-éthoxy}éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-[2-(2-méthoxyéthoxy)éthoxy]éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-(2-méthoxyéthoxy)éthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-méthoxyéthyle,
(2-{2-[2-(2-{2-[2-(2-hydroxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}-éthoxy)acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
[2-(2-{2-[2-(2-{2-[2-(2-hydroxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]-éthoxy}-éthoxy)éthoxy]acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,

{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}-éthoxy)éthoxy]éthoxy}acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]-éthoxy}éthoxy)éthoxy]éthoxy} éthoxy)acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]-éthoxy}éthoxy)éthoxy]éthoxy} éthoxy)éthoxy]acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
{2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyéthoxy)éthoxy]éthoxy}éthoxy)-éthoxy]éthoxy}éthoxy)éthoxy]éthoxy} éthoxy)éthoxy]éthoxy}acétate de (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle,
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy) éthoxy]éthoxy}-éthoxy)éthyle, et
ester (S)-2-oxo-3-[1-oxo-3-(2-trifluorométhylphényle)-1,2-dihydroisoquinoléine-7-yl]oxazolidine-5-ylméthyle de carbonate de 2-[2-(2-{2-[2-(2-{2-[2-(2-{2-[2-(2-hydroxyéthoxy)éthoxy]éthoxy}éthoxy)éthoxy]éthoxy}éthoxy) éthoxy]éthoxy}éthoxy)-éthoxy]éthyle.

14. Composition pharmaceutique, qui comprend, en tant que substance active, le composé ou un sel pharmaceutiquement acceptable de celui-ci selon l'une quelconque des revendications 1 à 13.

15. Agent thérapeutique ou préventif pour une utilisation dans le traitement d'une tumeur maligne, qui comprend, en tant que substance active, le composé ou sel pharmaceutiquement acceptable de celui-ci selon l'une quelconque des revendications 1 à 13.

16. Agent thérapeutique ou préventif pour une utilisation selon la revendication 15, dans lequel la tumeur maligne est un cancer solide.

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